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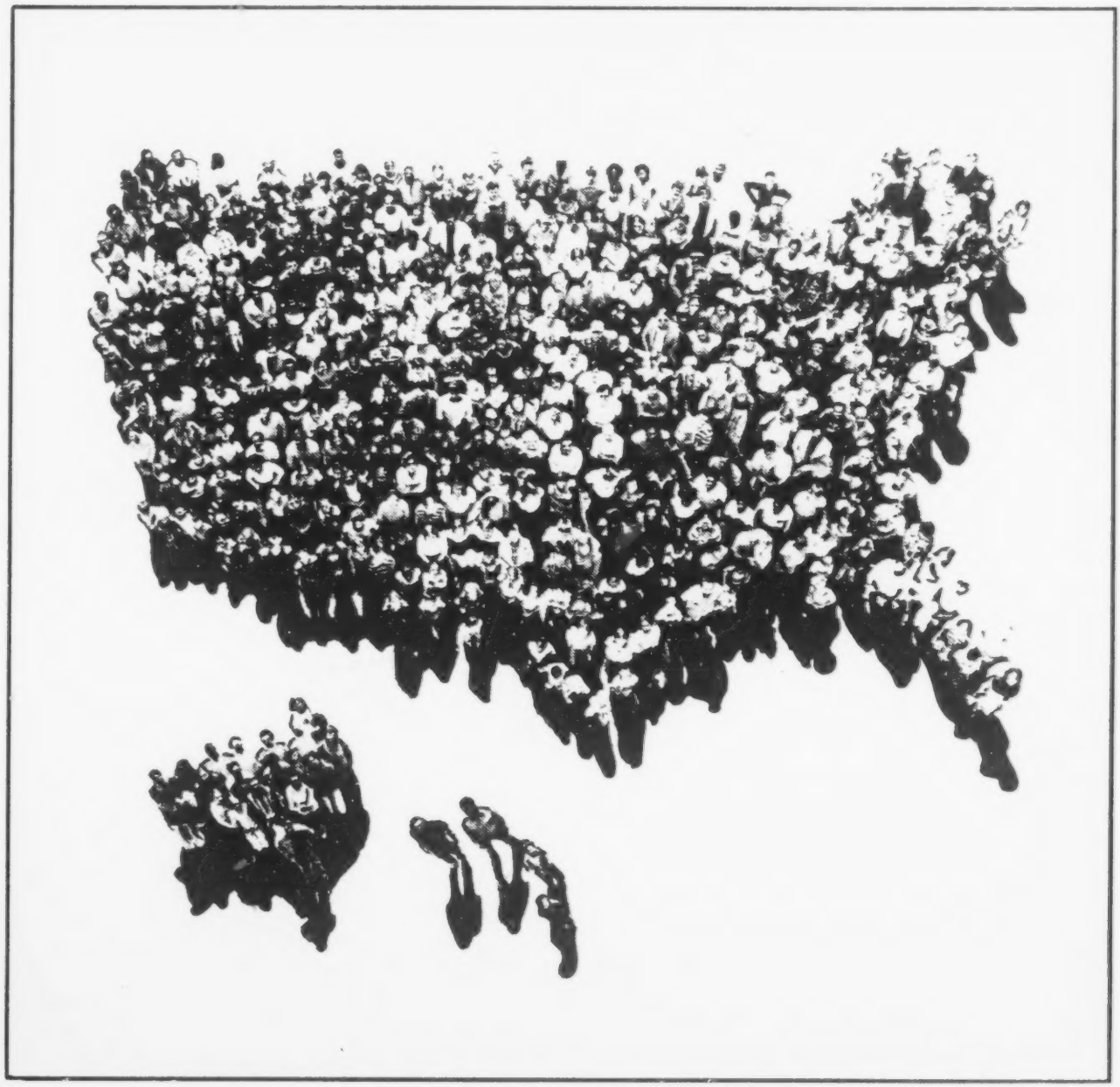

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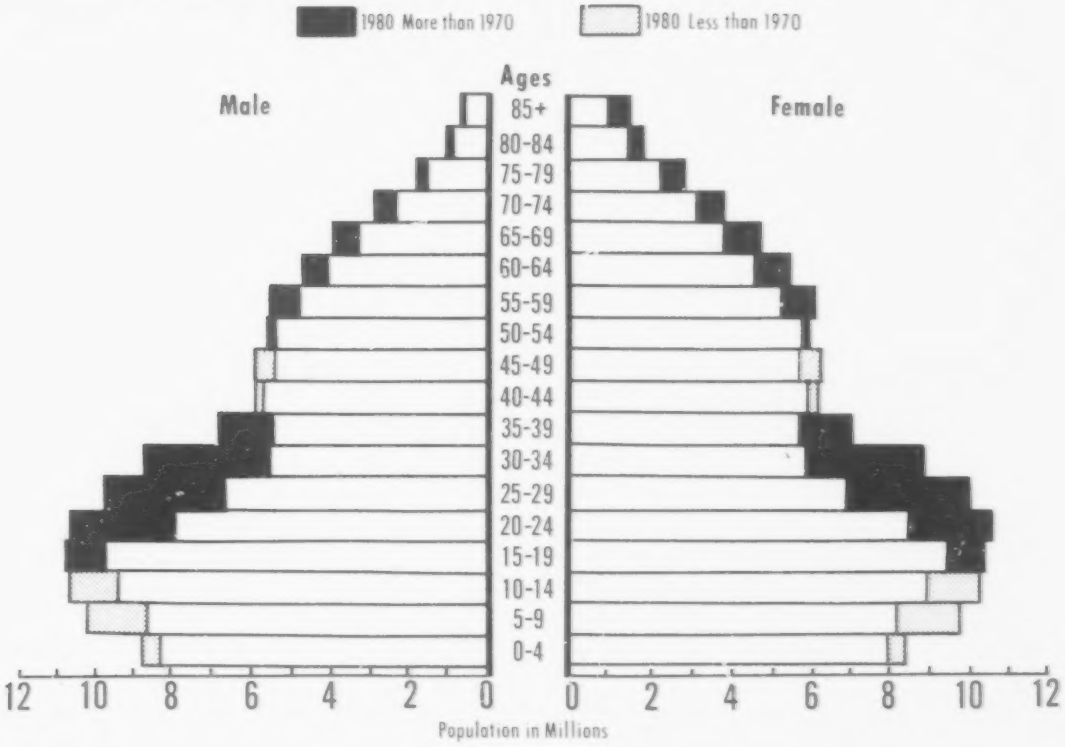

Changes in the Age Profile of the Population

The resident population of the United States reached 226,504,825 on April 1, 1980, increasing by 11.4 percent from the 203,235,298* count of a decade earlier. This rapid rise has significantly altered the age profile of the population. The changes in the age distribution of males and females in the United States population are presented in the chart on the opposite page, which illustrates the results of the 1970 and 1980 censuses.

The age profile shows contrasting growth patterns for children, young adults, and the elderly. The number of children under 15 years of age declined by 11.5 percent between 1970 and 1980. However, there were substantial differences in the relative declines within the age group. For instance, there were 4.8 percent fewer children under 5 years of age, while the number at ages 5-9 dropped by 16.4 percent, and at ages 10-14 by 12.3 percent. On the other hand, there were substantial increases among young adults, with increments of 30.1 percent at ages 20-24, 44.7 percent at ages 25-29, and 53.5 percent at ages 30-34. In fact, of the 23.2 million increase in population for the nation as a whole, 12.2 million were recorded at ages 25-34. These diverse patterns reflect the sharp contrast between the high fertility levels of the baby-boom years and the precipitous decline in birth rates that followed. The number of residents in the United States now aged 40-49 (born in the low-birth-rate years of the depression) decreased between 1970 and 1980.

The population aged 55 and over rose rapidly during the decade, with a greater relative gain for females than for males. For example, the number of persons aged 65 and over increased by more than five and a half million, or by 27.9 percent, reaching a total of 25,544,000 in April 1980. During the 10-year interval, the number of females rose by 31.3 percent to15,241,000 while the male population increased by 23.1 percent to 10,303,000.

In 1980 there were 110.0 million males and 116.5 million females in the total resident population. Between 1970 and 1980 the number of males increased by 11.2 percent while the number of females rose by 11.7 percent. As a result, the ratio of males to females declined slightly; there were 94.5 males for every 100 females in 1980 compared with 94.8 men per 100 women in 1970. An examination of the age distribution of the population in 1980 shows that there were more men than women under age 20, at ages 20-24 their numbers were approximately equal; thereafter, women outnumbered men in every age group. Moreover, the population disparity between the sexes widened sharply with advancing age because of the more favorable mortality experience among females. At ages 65 and over, there were three women for every two men and at ages 85 and over the sex differential in favor of women was more than two to one.

During the 1970s the nonwhite population expanded at a dramatic rate. In 1980 the number of nonwhites totaled 38,164,000—an increase of 51.8 percent over the nonwhite population in 1970. However, the total number of nonwhites in 1980 is not strictly comparable with the number in 1970 because of the significant changes in the way persons answered the census questionnaires

*The revised official United States total is 203,302,031, but details by age are not available.

with regard to race and in the procedure used by the Bureau of the Census to process the responses.

Although the birth rate for both whites and nonwhites has been declining since the mid-1950s, the birth rate among nonwhites is still significantly higher than that among whites; this has resulted in a younger age distribution for the nonwhite population. In 1980 more than 40 percent of the nonwhites were under 20 years of age, compared with 30.3 percent of the whites. Approximately 6.8 percent of the nonwhites were 65 years of age or older, while 12.2 percent of the whites were in this age group. In 1980 the median age for nonwhites was 24.6 years compared with a median age of 31.3 years for whites.

The fluctuations in birth rates in the past will continue to influence the age composition of the population. It is anticipated that the 1990 Census will record a large population increase in the 35-44 age group and a decline in the number of adults in their 50s. Moreover, if fertility continues at the current low levels, the proportion of older people in the population is expected to rise rapidly in the near future. These diverse patterns in the age distribution of the United States population imply significant social and economic changes in the future.

Railroad Accident Fatalities

During the 10-year period 1969-78, there were approximately 19,000 fatalities in accidents on United States railroads.* About two thirds of these deaths were caused by rail-highway grade-crossing accidents.

More detailed information on fatalities in railroad accidents is presented in Table 1. As shown in the upper tier of the table, by far the greatest number of fatalities occurred among nontrespassers (persons, other than employees or passengers, who are lawfully on railroad property or who are adjacent to railroad premises when injured as the result of railroad operation). There were 12,091 deaths among nontrespassers in the 10-year period under review. However, the number of fatalities declined from 6,910 in 1969-73 to 5,181 in 1974-78, or by 25 percent.

The second largest number of deaths were recorded among trespassers. (Trespassers are persons whose presence on railroad property is prohibited or unlawful. A person entering a rail-highway grade crossing is classified as a trespasser if the crossing is protected by gates, or other barriers, which are closed.) There was a 15-percent reduction in the number of fatalities among trespassers, with 2,959 deaths in 1969-73 and 2,502 in 1974-78.

Among passengers there were 128 deaths from railroad accidents in 1969-78. Fatalities decreased by more than half during the 10 years, dropping from 90 deaths in the first five years of the period to 38 deaths in the second five years. One accident in 1972 accounted for half of all passenger deaths in 1969-73; a commuter train

*Excluding rapid transit railroads

TABLE 1—RAILROAD ACCIDENT FATALITIES*

United States, 1969-78

Persons Involved and Type of Accident	Number of Deaths		
	1969-73	1974-78	1969-78
All Railroad Accidents			
Employee on duty	826	602	1,428
Employee not on duty	44	33	77
Passenger	90	38	128
Nontrespasser	6,910	5,181	12,091
Trespasser	2,959	2,502	5,461
Total	10,829	8,356	19,185
Rail-Highway Grade-Crossing Accidents			
Pedestrian	354	325	679
Motor vehicle	6,537	4,721	11,258
Other or unknown	151	325	476
Total	7,042	5,371	12,413

*Rapid transit railroad fatalities are excluded.

Note: Fatality rates were not computed because of a lack of sufficient data on the numbers exposed to risk for certain categories.

Source of basic data: Reports of Federal Railroad Administration.

was struck from behind and 44 passengers in the last car, as well as the engineer of the colliding train, were killed.

There were 1,505 fatalities among employees of the railroads in 1969-78, with 1,428 deaths among employees who were on duty at the time of the accident and 77 deaths among those who were not on duty. The number of deaths for each group decreased between 1969-73 and 1974-78.

Rail-highway grade-crossing accidents were responsible for 12,413 fatalities during the 10-year period. As shown in Table 1, 11,258 of these deaths occurred in accidents involving motor vehicles, while 679 deaths were among pedestrians. A review of the experience for 1978 indicates that 623 automobiles, 254 trucks, 31 truck trailers, and 21 motorcycles were involved in fatal grade-crossing accidents in that year. This pattern was typical of the earlier years. Between 1969-73 and 1974-78 the number of fatalities among the occupants of motor vehicles in grade-crossing accidents decreased from 6,537 to 4,721, or by nearly 28 percent. Among pedestrians, a decline of about 8 percent was recorded.

Between 1969 and 1978, the number of employees of United States railroads declined from 865,000 to 660,000, or by 24 percent. During this time, the number of deaths from railroad accidents among employees on duty has ranged from a high of 198 in 1969 to a low of 100 in 1976. Fatality rates among these employees have varied annually between 16 and 25 deaths per 100,000 employees.

Table 2 on page 6 shows the fatality rates in the seven railroad occupation groups (as defined by the Interstate Commerce Commission) for 1969-78, as well as for both five-year periods. Deaths among employees not on duty are excluded from the table; such deaths, which represent about 5.1 percent of all employee deaths, are not tabulated according to occupation.

The fatality rate of 22.3 per 100,000 among railroad employees on duty in the 1969-73 period

TABLE 2 – FATALITY RATES AMONG RAILROAD EMPLOYEES ON DUTY*

United States, 1969-78

Occupation Group	Average Annual Fatality Rate per 100,000 Employees		
	1969-73	1974-78	1969-78
Executive, official, and staff assistant	11.4	13.6	12.5
Professional, clerical, and general	1.3	4.0	2.5
Maintenance of way and structure	27.5	24.2	25.9
Maintenance of equipment and stores	14.5	12.1	13.3
Transportation other than train, engine, and yard	5.5	5.0	5.3
Transportation – yardmaster, switch tender, and hostler	6.7†	5.4†	6.0
Transportation – train and engine	47.7	33.1	40.7
All	22.3	18.2	20.3

*Based on fatal injuries only.

†Based on five or fewer deaths.

Source: Bureau of Labor Statistics, Chicago Regional Office, Railroad Retirement Board, and Federal Railroad Administration.

of the study decreased to 18.2 per 100,000 in 1974-78, or by about 18 percent. The greatest improvement was recorded in the train and engine transportation group, with a 30-percent reduction in death rates, from 47.7 to 33.1 per 100,000. However, these fatality rates were considerably higher than the rates for the other occupation groups. The increase in the fatality rate among the executives listed in Table 2 is noteworthy because this group as a rule is not usually subjected to a great degree of hazard. It must be remembered, however, that there are some small railroads where the chief executive officer or owner takes a very active hand in the actual running of the railroad. In the 10-year period there were 26 deaths in this group.

Table 3 presents fatality rates for a sample selection of 21 specific occupations, chosen largely for their high fatality rates. For most of the occupations there was an improvement in the fatality experience between 1969-73 and 1974-78. The most dramatic improvement occurred among road freight engineers and motormen (local and way freight) where the rate dropped from 45.1 to 8.3 per 100,000 employees; there were 17 fatalities in the earlier five-year period and only 3 in the later period. The highest fatality rates for the 10-year period were found among road freight conductors (72.6 per 100,000) and road freight brakemen and flagmen (73.2 per 100,000) in local and way freight transportation. These rates were considerably higher than the rates in all other occupations cited.

Accident statistics for rapid transit railroads have become available only recently. From 1975 to 1978 about 10 companies, which represent nearly all of the rapid transit facilities in the United States, have sent accident reports to the Federal Railroad Administration. The number of deaths each year has ranged from 49 to 80, with a total of 255 for the four-year period. Twelve of these deaths were among employees, 41 among passengers, and 45 among nontrespassers; the other 157 deaths occurred among trespassers.

Not all passenger fatalities occurred in actual railroad accidents. Of the five passenger fatalities in 1978, all occurred on the New York City subway system, one of the largest in the world which carries over one billion passengers, or about 71 percent of the United States rapid transit traffic each year. Four passengers died from stumbling, slipping, or falling and one died from assault.

TABLE 3—FATALITY RATES FOR SELECTED OCCUPATIONS AMONG RAILROAD EMPLOYEES ON DUTY*

United States, 1969-78

Occupation	Average Annual Fatality Rate per 100,000 Employees		
	1969-73	1974-78	1969-78
Executive, general officer, division officer, assistant, and staff assistant	11.5	13.6	12.5
Lieutenant and sergeant of police, patrolman, and watchman	18.7†	33.9	26.1
Bridge and building gang foreman (skilled labor), carpenter, ironworker, and painter	45.7	29.3	37.8
Portable equipment operator	16.3	24.9	19.0
Gang or section foreman	56.8	30.5	43.3
Extra gang man	18.1	17.0	17.6
Section man	24.3	23.5	23.9
Signalman and signal maintainer	30.9	40.0	35.5
Lineman and groundman	51.2	24.2†	38.4
Passenger car man	54.3	38.0	45.9
Freight car man	15.8	13.0	14.5
Road freight conductor (through freight)	29.8	28.4	29.1
Road freight conductor (local and way freight)	79.9	65.2	72.6
Road freight brakeman and flagman (through freight)	48.8	37.8	43.2
Road freight brakeman and flagman (local and way freight)	92.2	53.4	73.2
Yard conductor and yard foreman	42.8	28.3	35.8
Yard brakeman and yard helper	44.1	39.5	42.1
Road passenger engineer and motorman	15.9†	33.5†	24.5
Road freight engineer and motorman (through freight)	71.5	31.2	50.0
Road freight engineer and motorman (local and way freight)	45.1	8.3†	27.0
Fireman and helper	27.3†	16.3†	23.3

*Rapid transit railroad fatalities are excluded.

†Based on five or fewer deaths.

Source of basic data: Reports of United States Railroad Retirement Board, and Federal Railroad Administration.

Variation in Duration of Disability Among Metropolitan Employees

Disability among the employed is generally of short duration. A recent study of disability lasting longer than a week among Metropolitan employees indicates that nearly a fifth of the disabled returned to work within 15 days after onset of illness and about half recovered within five weeks. Only about one in 25 remained disabled for longer than six months. Additional details of the study, which covered the three-year period 1977-79, are shown in the table on page 9.

Recovery was generally slower among sales employees (District Office and Field personnel) than among office employees. For every time period shown in the table, a smaller proportion of sales personnel than office personnel recovered from disability. After one week of disability benefits (two weeks after onset of illness) nearly a third of male office employees but only about a ninth of male sales employees had returned to work. The difference between the two groups was about 24 percentage points after four weeks of benefits, but narrowed to 12 percentage points after three months. At the end of six months, the differential was only five percentage points, which diminished to two percentage points after 24 months. 98 percent of the male office employees and 96 percent of the male sales employees had recovered by the end of the second year of disability.

The same advantage was enjoyed by women office personnel but to a lesser degree. After the first week of benefits, 26 percent of the disabled women in the Home and Head Offices had returned to work, compared with 16 percent of the disabled women in the Field. The differential remained at ten percentage points until three months had elapsed, when it decreased to seven percentage points. After six months, 98 percent of female office employees and 97 percent of female sales employees had recovered.

Older employees generally took a longer time to recover from disability than did younger employees. Among office employees, for example, 95 percent of the men and women under age 25, but only 81 percent of the men and 88 percent of the women aged 45-64 had returned to work after three months of benefits. Among sales employees, 91 percent of the men under age 25, but only 69 percent of those aged 45-64, had recovered from disability by the end of the three-month period. Among women sales employees, 94 percent of those under age 25 had returned to work within this period, but only 80 percent of the women aged 45-64 had done so.

Employees recovered from some types of disability much more rapidly than from others. Diseases of the respiratory system, mostly acute conditions of the upper respiratory tract, were notable for their short duration. Disorders of the circulatory system, however, disabled employees for longer periods than any other major cause of disability shown in the table. Among office employees nearly two thirds of the men and more than half of the women disabled by respiratory conditions were back at work within one week of the inception of disability benefits; by the end of the fourth week about nine out of ten had recovered. Among sales personnel, more than a quarter of the men and nearly two fifths of the women disabled by respiratory conditions had recovered by the end of the first week of benefits; after four weeks only three tenths of the men and a fifth of the women were still disabled. On the other hand, less than a fifth of the office personnel disabled by circulatory disorders recovered within one week of the receipt of benefits; about half were still disabled after four weeks. Among sales personnel these proportions were smaller still. The pattern of disability for maternity differed markedly from all other causes of disability; more than half of all such cases of disability lasted between four and seven weeks.

The vast majority of the disabled eventually recovered; a small proportion, however, died while on disability. In this study somewhat more than 1 percent of all disabilities ended in death. Details of the deaths by sex, age, and disability status are presented in the chart on the back cover. It was not feasible to show the experience separately by type of employment because of the paucity of

VARIATION IN DURATION OF DISABILITY AND AVERAGE DURATION PER CLAIM

Personnel of the Metropolitan Life Insurance Company, 1977-79*

Sex, Age, and Cause of Disability	Cumulative Percentage of Claims Terminating Within Indicated Duration Following Admission to Benefits										Average Duration of Disability per Claim† (In Weeks)	
	Weeks		Months			Weeks		Months				
	1	4	3	6	24	1	4	3	6	24		
	Office Personnel					Sales Personnel‡					Office Personnel	Sales Personnel‡
Males at Ages												
17-64	32.5	63.4	87.2	96.4	98.0	10.6	39.7	75.2	91.4	96.0	5.4	9.1
17-24	37.3	74.1	94.9	100.0	100.0	19.5	60.2	90.8	100.0	100.0	3.7	5.3
25-44	35.9	68.0	91.5	98.2	99.0	12.0	46.1	81.6	96.4	98.5	4.4	7.7
45-64	28.2	56.3	81.2	93.7	95.5	8.4	32.6	68.7	86.8	93.8	6.9	10.6
Females at Ages												
17-64	25.6	55.9	91.6	98.1	99.0	15.9	46.1	85.1	97.1	98.9	5.2	7.0
17-24	29.1	60.0	95.2	99.9	100.0	23.0	58.4	94.2	100.0	100.0	4.4	4.7
25-44	21.8	50.3	92.9	98.8	99.6	13.8	44.0	85.8	98.3	99.3	5.4	6.9
45-64	28.3	60.6	87.9	96.1	97.7	16.0	43.8	79.8	93.8	97.7	5.6	8.3
Males at Ages 17-64												
Diseases of respiratory system	65.8	89.6	97.1	99.2	99.2	26.5	70.1	89.1	95.5	97.9	2.0	4.9
Diseases of digestive system	26.2	61.2	93.9	99.1	99.1	10.1	39.9	85.9	96.9	98.7	4.5	7.2
Diseases of circulatory system	19.9	45.7	68.9	86.1	94.0	4.1	20.4	53.4	78.9	90.6	10.0	14.2
Diseases of heart	14.1	34.1	55.3	82.4	92.9	3.6	15.3	41.8	72.6	87.5	13.2	16.6
Diseases of bones	24.5	57.7	82.8	95.7	97.6	7.0	32.5	68.7	89.0	94.1	6.4	10.6
Accidental injuries	27.9	61.8	89.3	98.2	98.6	9.9	46.2	81.9	96.8	98.5	5.1	7.6
Females at Ages 17-64												
Diseases of respiratory system	54.7	91.2	98.1	99.3	99.7	38.9	81.4	94.3	98.9	100.0	1.9	3.3
Diseases of digestive system	31.1	59.5	92.1	98.7	99.4	16.2	49.2	91.2	97.7	99.6	4.8	5.8
Diseases of circulatory system	19.5	51.2	83.3	93.6	96.4	9.1	29.9	62.3	89.0	98.1	6.9	11.8
Diseases of heart	18.2	41.8	71.8	86.4	93.6	6.9	24.1	50.0	81.0	94.8	9.6	15.2
Diseases of genitourinary system	25.8	56.3	93.2	99.0	99.2	15.2	37.6	89.3	99.3	99.3	4.9	6.5
Maternity and related conditions	4.0	21.9	97.0	99.8	100.0	3.0	23.6	93.9	99.4	100.0	6.5	7.0
Diseases of bones	23.1	56.1	83.6	95.1	97.5	12.0	44.6	77.7	94.9	97.9	6.8	8.4
Accidental injuries	20.8	54.8	87.7	98.1	99.0	13.1	45.0	82.6	98.7	99.7	5.9	7.8

*Personnel in the Pacific Coast States and Canada are not included.

†Based on first 26 weeks of benefits.

‡Employees in the District Offices and Field (including clerical).

Note: Temporary disability benefits are payable after the first week of absence for a maximum of 26 weeks. If still disabled, employees receive further benefits under another part of the program. The first week of absence and disability days beyond two years are not included in the above figures.

data. Employees on disability prior to death experienced much higher death rates than did those who were active or disabled for less than a week before death. The differentials were greater at the older than at the younger ages and considerably greater among women than among men. During the period of the study, disabled men at ages 45-64 recorded an annual death rate of 12.9 per 1,000, about five times the 2.7 per 1,000 rate among active male employees. At ages 25-44, the death rate was 2.1 per 1,000 among the disabled men and 0.6 per 1,000 among those actively at work. Among women at ages 45-64 the annual death rate was 7.7 per 1,000 among the disabled, or thirteen times the 0.6 per 1,000 rate registered among active female employees. At ages 25-44, the death rate was 1.4 per 1,000 among disabled women and 0.2 per 1,000 among the active.

In every instance in this study, more than half of those admitted to disability benefits recovered within a shorter period than the average duration of disability. For example, among male office personnel disabled by respiratory diseases the average duration of disability was 2.0 weeks; however, 80 percent had recovered by the end of the second week of benefits. Because most disabilities among those in the work force are of short duration, the proportion recovering at various time intervals following onset of disability provides more useful information on the extent of disability than does average duration.

Fatal Accidents Among School-Age Children

Accidents are the leading cause of death among school-age children in the United States, claiming more lives than all other causes of death combined. At ages 5-14, accidents are responsible for more than half the deaths among boys and for about two fifths of all deaths among girls. Although the number of deaths from accidental injuries has declined in recent years, accidents still constitute the major threat to life among children of school age. During 1978, the latest year for which official figures are available, 6,118 children aged 5-14 died as a result of accidental injuries—a death rate of 17.2 per 100,000.

As indicated in Table 1 on page 11, the accident death rate among boys aged 5-14 dropped from 27.3 per 100,000 in 1968-69 to 23.2 in 1977-78, a decrease of 15 percent; the decrease was the same for age groups 5-9 and 10-14. During the same period, the accident death rate among girls aged 5-14 declined from 12.6 to 11.1 per 100,000, or by 12 percent. There was a 14-percent decrease in mortality among girls aged 5-9 but only a 6-percent reduction among girls aged 10-14.

Although the number of deaths from motor vehicle accidents among school-age children rose during the 1960s, there has been a marked decline in such fatalities since 1973, attributed in large part to the mandatory speed limit of 55 miles per hour. Between 1968-69 and 1977-78 the death rate from motor vehicle accidents among boys 5-14 years of age decreased from 12.6 to 11.0 per 100,000; among girls such deaths fell from 7.0 to 6.4 per 100,000. The greatest reductions were recorded at ages 5-9: 20 percent for boys and 15 percent for girls. At ages 10-14, such fatalities decreased by 7 percent among boys and 3 percent among girls.

During the period under review, the mortality experience from all other types of accidents combined continued the declining trend of the 1960s. Between 1968-69 and 1977-78, death rates from

TABLE 1—MORTALITY FROM ACCIDENTS AT AGES 5-14

United States, 1968-69 and 1977-78

Age and Sex	Accidents—Total			Motor Vehicle Accidents			All Other Accidents		
	Death Rate per 100,000		Percent Change	Death Rate per 100,000		Percent Change	Death Rate per 100,000		Percent Change
	1968-69	1977-78		1968-69	1977-78		1968-69	1977-78	
Total									
5-9	19.8	16.9	−15	10.5	8.6	−18	9.3	8.3	−11
10-14	20.3	17.7	−13	9.3	8.8	− 5	11.0	8.9	−19
5-14	20.1	17.3	−14	9.9	8.7	−12	10.2	8.6	−16
Boys									
5-9	25.4	21.5	−15	13.0	10.4	−20	12.4	11.1	−10
10-14	29.3	24.8	−15	12.3	11.5	− 7	17.0	13.3	−22
5-14	27.3	23.2	−15	12.6	11.0	−13	14.7	12.2	−17
Girls									
5-9	14.1	12.1	−14	7.9	6.7	−15	6.2	5.4	−13
10-14	11.0	10.3	− 6	6.2	6.0	− 3	4.8	4.3	−10
5-14	12.6	11.1	−12	7.0	6.4	− 9	5.6	4.7	−16

Source of basic data: Reports of the Division of Vital Statistics, National Center for Health Statistics.

such accidents fell by one tenth among boys aged 5-9 and girls aged 10-14. There was a 13-percent decrease in such fatalities among girls 5-9 years of age and a 22-percent decrease among boys 10-14 years old.

Detailed data on the mortality from the leading causes of fatal accidents among school-age children in 1977-78 are presented in Table 2. The death rates from all major types of accidents were significantly higher for boys than for girls, with the exception of the mortality from fire injuries at ages 10-14, when the rate was the same for both sexes.

Motor vehicle accidents were responsible for 47 percent of all fatalities among boys aged 5-14 and for 57 percent of the deaths among girls in 1977-78. The death rate among boys was about 1¾ times that among girls. Pedestrian fatalities accounted for one out of every two deaths in motor vehicle accidents among children aged 5-9 and for one out of every four at ages 10-14. Most of the pedestrian fatalities among children occurred while they were playing on or crossing streets. This reflects the fact that children of school age often fail to observe safety precautions, but may also indicate a lack of adult supervision.

Drowning (other than in water transportation) ranked second as a cause of accidental death among boys aged 5-14 and represented about a fifth of their accident fatalities in 1977-78. Among girls, drowning ranked third. The death rate of 1.1 per 100,000 among girls was about a quarter of the death rate among boys.

On the other hand, deaths caused by fires and flames ranked second among girls and third among boys. The death rates among boys were 2.3 per 100,000 at ages 5-9 and 1.1 per 100,000 at ages 10-14. The experience among girls followed the same pattern, with the death rate at ages 5-9 considerably higher than the rate at ages 10-14.

Firearm accidents accounted for 6 percent of all accident fatalities among boys, with three quarters of the deaths concentrated at ages 10-14. The death rate from firearm accidents among boys of this age was 2.0 per 100,000, about seven times that recorded among girls. It is evident that boys are much more likely than girls to handle and play with guns that have been left unattended.

Falls and water transport accidents were each responsible for about 2 percent of all accidental deaths among boys, with a slightly higher proportion of the deaths occurring at ages 10-14. Among girls the death rates from such accidents were relatively low.

TABLE 2—MORTALITY FROM LEADING TYPES OF ACCIDENTS AT AGES 5-14

United States, 1977-78

Type of Accident	Ages 5-9	Ages 10-14	Ages 5-14
	Average Annual Death Rate per 100,000		
Boys			
Accidents—All Types	21.5	24.8	23.2
Motor vehicle	10.4	11.5	11.0
Pedestrian	5.7	2.7	4.1
Drowning*	4.2	4.4	4.3
Fires and flames	2.3	1.1	1.7
Firearm missile	.8	2.0	1.4
Falls	.4	.6	.5
Water transport	.3	.4	.4
All other	3.1	4.8	3.9
Girls			
Accidents—All Types	12.1	10.3	11.1
Motor vehicle	6.7	6.0	6.4
Pedestrian	3.1	1.7	2.3
Drowning*	1.2	1.1	1.1
Fires and flames	1.9	1.1	1.5
Firearm missile	.3	.3	.3
Falls	.2	.1	.2
Water transport	.2	.1	.1
All other	1.6	1.6	1.5
	Percent Distribution		
Accidental deaths as a percent of all deaths			
Boys	54%	56%	55%
Girls	44	41	42
Motor vehicle accident deaths as a percent of all accidental deaths			
Boys	49	47	47
Girls	56	59	57

*Exclusive of deaths in water transportation

Source of basic data: Reports of the Division of Vital Statistics, National Center for Health Statistics

Some progress has been made in recent years in reducing the total number of accidental deaths. However, accidents remain the major killer of children of school age. In addition to the large number of fatalities, accidents can also cause permanent impairments, disabling injuries, and considerable loss of time from school. Data from the National Health Survey indicate that for the year 1978 about 15.5 million children in the age range 6-16 (38 percent of the population at these ages) suffered injuries requiring medical attention or involving at least one day of restricted activity. Time lost from school because of injuries amounted to 47.8 days per 100 boys and 36.2 days per 100 girls.

Many accidents among school-age children could be prevented. The extension to other parts of the nation of programs such as the federally subsidized Massachusetts Statewide Childhood Injury Prevention Program (SCIPP), which is designed to identify potential hazards to children and promote effective preventive measures, could help to reduce the incidence and severity of childhood accidents.

Long Term Cancer Survival Among Women

The appreciable improvement in survival among cancer patients in recent years has been attributed to earlier detection and better treatment of some forms of cancer. In general, female cancer patients have experienced more favorable relative survival rates than males for most of the major sites of cancer.

The survival rate (the proportion of patients alive a specified period of years following initial diagnosis or treatment) is a measure used to gauge the effectiveness of cancer therapy. Five-year survival rates have been used in many studies. From follow-up information made available by the National Cancer Institute, the Statistical Bureau of the Metropolitan Life Insurance Company has assembled survival data for longer periods for various cancer sites among white cancer patients. This article presents the findings for white females whose cancers were diagnosed and treated during the years 1950-73, with follow-up through 1975.*

The table on page 14 presents the survival experience in terms of relative survival rates among female cancer patients at the end of 10, 15 and 20 years following diagnosis. The relative survival rate is the ratio of the observed survival rate to the expected rate for a group of people in the general population similar to the patient group with respect to age, sex, and calendar period of observation. These rates provide a basis for comparison of the additional mortality associated with specific forms of cancer in patient groups.

Relative survival rates are shown for nine primary cancer sites—for localized growths and for all stages of cancer combined—by decennial age groups (45 and over) as well as for all ages combined at the time of diagnosis. No rate is shown for any age group with less than 400 diagnosed cases or with fewer than five deaths.

Cancer of the breast accounts for more than a quarter of all malignant neoplasms and is responsible for about a fifth of all cancer deaths among women. Although there has been little change in the mortality rate from cancer of this site in the past 50 years, survival rates have been relatively high. Among women at all ages combined and for all stages of the disease, half survived 10 years, and two fifths survived 20 years. When the disease was diagnosed in the localized stage - confined to the site of origin at initiation of therapy—relative survival rates were appreciably higher: three out of four women survived for 10 years and three out of five survived for 20 years. However, less than half of all breast cancers were diagnosed in the localized stage. Survival rates did not differ significantly by age.

The mortality from uterine cancer has declined by more than 70 percent in the past 40 years, but cancer of this site is still a leading cause of death among women. The number of new cases is estimated at 54,000 in 1981, with about 10,000 deaths during the year. The decline in the death rate has been attributed largely to increased use of the Pap test and regular checkups. The Pap test is highly effective in the early detection of cancer of the uterine cervix (neck of the uterus) but is only about 40 percent effective in detecting cancer of the uterine corpus (body of the uterus).

Among women with cancer of the uterine cervix (all stages combined) diagnosed and treated during the years 1950-73, 52 percent survived 10 years after diagnosis, 49 percent for 15 years, and 47 percent for 20 years. When cancer was diagnosed and treated in the localized stage, survival rates were markedly higher—about seven out of 10 women were alive at the end of 20 years. Survival rates were higher at ages 45-54 (72 percent at the end of 10 years and 69 percent after 15 years) than at ages 75 and over (60 percent after 10 years and 63 percent after 15 years).

Relative survival rates were higher among women with cancer of the uterine corpus than

*Similar data for men appeared in the Jan-Mar 1981 issue of the *Statistical Bulletin*.

CANCER SURVIVAL AMONG WOMEN BY AGE

Cancer Diagnosed Among White Females, 1950-73

ALL STAGES OF DISEASE

Age at Diagnosis	Stomach			Colon			Rectum			Lung and Bronchus		
	Relative Survival Rate*											
	10 Years	15 Years	20 Years	10 Years	5 Years	20 Years	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years
All Ages	11%	11%	†	41%	39%	38%	37%	35%	31%	9%	7%	†
45-54	†	†	†	42	40	38	40	38	†	†	†	†
55-64	†	†	†	43	41	39	42	38	36	8	†	†
65-74	11	†	†	40	38	38	35	32	26	†	†	†
75 and over	13	19	†	43	42	†	31	†	†	†	†	†

Age at Diagnosis	Breast			Uterine Cervix			Uterine Corpus			Ovary			Bladder		
	Relative Survival Rate*														
	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years
All Ages	50%	45%	40%	52%	49%	47%	70%	68%	62%	28%	26%	24%	50%	46%	†
45-54	53	48	43	53	49	47	82	80	76	30	27	†	†	†	†
55-64	48	42	37	47	42	40	71	68	61	23	20	17	55	48	†
65-74	47	41	37	43	37	32	59	54	42	18	16	†	45	40	†
75 and over	50	55	65	33	32	†	56	†	†	19	†	†	40	†	†

LOCALIZED DISEASE

Age at Diagnosis	Stomach			Colon			Rectum			Lung and Bronchus		
	Relative Survival Rate*											
	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years
All Ages	34%	†	†	66%	63%	63%	61%	57%	52%	37%	†	†
45-54	‡	‡	‡	68	62	†	†	†	†	‡	‡	‡
55-64	‡	‡	‡	70	67	63	67	62	†	†	†	†
65-74	32	†	†	63	61	64	57	52	43	†	†	†
75 and over	†	†	†	70	69	†	57	†	†	‡	‡	‡

Age at Diagnosis	Breast			Uterine Cervix			Uterine Corpus			Ovary			Bladder		
	Relative Survival Rate*														
	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years	10 Years	15 Years	20 Years
All Ages	74%	69%	63%	72%	69%	67%	81%	79%	72%	67%	64%	60%	63%	59%	†
45-54	77	70	66	72	69	†	90	87	83	†	63	†	†	†	†
55-64	73	66	59	66	61	60	81	78	68	60	57	47	69	61	†
65-74	68	63	60	64	60	46	72	66	56	64	57	†	56	51	†
75 and over	78	92	75	60	63	†	78	†	†	‡	‡	‡	55	†	†

*Relative survival rate is the observed proportion surviving among the cancer patients under consideration divided by the proportion expected to survive in the general population with the same age distribution, based on population mortality rates during the period under observation.

†Fewer than five deaths from cancer.

‡Fewer than 400 cases diagnosed.

Source of basic data: Unpublished data from End Results Evaluation Program, National Cancer Institute, Bethesda, Maryland.

for those with cervical cancer. Among women with cancer of the uterine corpus (at all ages and for all stages of the disease), 70 percent survived 10 years after diagnosis, 68 percent for 15 years, and 62 percent for 20 years. When cancer of this site was diagnosed in the localized stage, survival rates rose to 81 percent at the end of 10 years, 79 percent after 15 years, and 72 percent after 20 years. Nine out of ten women aged 45-54 with localized cancer of the uterine corpus survived 10 years. However, 10-year survival rates were somewhat lower at ages 55-74. About three out of four cases were identified and treated while the disease was in the localized stage.

Cancer of the ovary is responsible for about 11,000 deaths each year. Death rates have increased slightly over the past 25 years. The relative survival rates among women of all ages and at all stages of the disease were 28 percent at the end of 10 years, declining to 26 percent at the end of 15 years, and to 24 percent after 20 years. Survival rates increased significantly when the cancer was diagnosed and treated in the localized stage—67 percent survived for 10 years, 64 percent for 15 years, and 60 percent for 20 years. About 40 percent of the ovarian cancers were detected in the localized stage.

Cancer of the colon and rectum accounts for about 15 percent of all cancer deaths among women, with an estimated 25,000 deaths from colonic cancer and 4,000 from rectal cancer each year. Cancer of the colon occurs more often and mortality is higher among women than among men but the reverse is true for cancer of the rectum. Relative survival rates for women with cancer of the colon were also higher than the rates for men. Among women with cancer of the colon 41 percent were alive 10 years after diagnosis, 39 percent after 15 years, and 38 percent after 20 years. These rates were about the same for specific age groups. Relative survival rates were markedly higher for women with localized cancer of the colon; 66 percent survived for 10 years, and 63 percent for 15 and 20 years. About two out of five cases of cancer of the colon were detected in the localized stage.

Relative survival rates among women with cancer of the rectum were slightly lower than the rates among women with cancer of the colon. The relative survival rates among women with cancer of the rectum were 37 percent at the end of 10 years, 35 percent after 15 years, and 31 percent after 20 years. Survival rates were considerably higher among women with localized cancer of the rectum, with 61 percent surviving for 10 years, 57 percent for 15 years, and 52 percent for 20 years. About 46 percent of the cases were diagnosed in the localized stage.

Cancer of the lung currently accounts for about 28,000 deaths each year among women. The death rate from lung cancer among women is rising, and the American Cancer Society predicts that by the mid-1980s cancer of the lung may well surpass breast cancer as the leading cause of cancer death among women. During the 1950-73 period, relative survival rates from cancer of the lung and bronchus among women were 9 percent at the end of 10 years and 7 percent after 15 years. When cancer of the lung was diagnosed and treated in the localized stage, the survival rate increased to 37 percent at the end of 10 years. However, only 17 percent of the lung cancer cases were diagnosed in the localized stage.

The incidence of cancer of the stomach has been declining for several decades. Mortality has also decreased but cancer of this site is still responsible for about 5,500 deaths among women each year. Among women with cancer of the stomach (at all ages combined and for all stages of the disease), 11 percent survived for 10 years and for 15 years. When the disease was diagnosed in the localized stage, the survival rate rose to 34 percent at the end of 10 years. However, only a fifth of such cases were detected in the localized stage.

There are about 3,300 deaths annually from cancer of the bladder among women. In the 1950-73 period, about half of all women with cancer of the bladder survived 10 years after diagnosis while 46 percent survived 15 years. Relative survival rates were higher for women whose cancer was diagnosed in the localized stage—63 percent at the end of 10 years and 59 percent after 15 years. Among women in the 55-64 age group, 69 percent survived 10 years and 61 percent for 15 years. Survival rates were somewhat lower among women at ages 65-74 (56 percent) and at ages 75 and over (55 percent) at the end of 10 years.

Deaths of Active* Employees-Metropolitan Life Insurance Company 1977-79

*Actively at work or on temporary disability. Personnel in the Pacific Coast States and Canada are not included.

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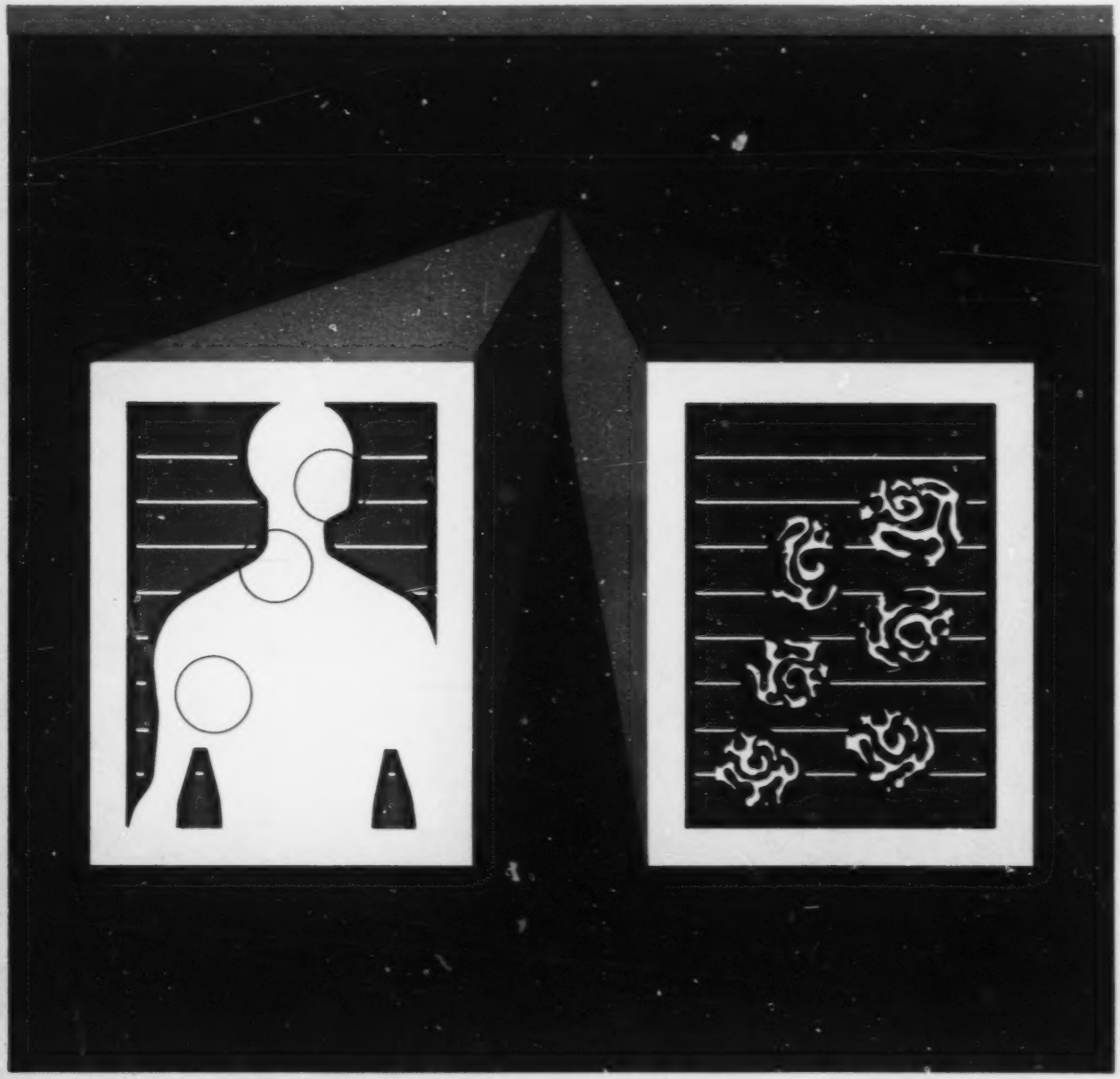


Hodgkin's Disease and Leukemia
Cycling Accidents in the United States
Passenger Fatalities in Flying on Scheduled Airlines
Mortality in the United States, Canada, and Western Europe
Frequency and Duration of Long-Term Disability Among Metropolitan Employees

MORTALITY FROM HODGKIN'S DISEASE AND LEUKEMIA

Metropolitan Life Insurance Company Standard Ordinary Policyholders, 1967-69 and 1977-79 and United States General Population, 1967-68 and 1977-78

Metropolitan Standard Ordinary Policyholders

Age	HODGKIN'S DISEASE						LEUKEMIA					
	Death Rate per 100,000						Death Rate per 100,000					
	1967-69		1977-79		Percent Decrease		1967-69		1977-79		Percent Decrease‡	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All Ages*	2.0	1.4	1.2	0.7	40	50	7.0	4.9	5.7	4.6	19	6
Under 10	†	†	†	†	†	†	4.6	4.9	1.3	2.0	72	59
10-19	.3	†	†	†	†	†	1.9	1.6	2.3	1.5	+21	6
20-29	2.2	1.1	.9	.9	59	18	1.8	1.4	1.6	1.5	11	+7
30-39	2.2	1.5	1.7	.9	23	40	2.4	1.9	2.2	2.0	8	+5
40-49	2.6	1.4	1.5	.7	42	50	4.4	2.9	3.5	3.1	20	+7
50-59	3.8	2.3	1.8	.7	53	70	9.3	6.3	8.1	5.6	13	+5
60-69	5.0	3.4	2.6	†	48	†	24.1	13.6	21.3	12.8	12	6
70 and over	5.0	7.7	4.5	†	10	†	55.4	36.7	46.7	40.0	16	+9

United States General Population

Age	Death Rate per 100,000						Death Rate per 100,000					
	1967-68		1977-78		Percent Decrease		1967-68		1977-78		Percent Decrease‡	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All Ages*	2.1	1.3	1.2	0.7	43	46	7.5	4.8	6.9	4.3	8	10
Under 10	.1	†	†	†	†	†	3.9	3.2	2.3	1.8	41	44
10-19	.6	.4	.2	.2	67	50	2.7	1.8	2.2	1.4	19	22
20-29	2.1	1.3	1.1	.7	48	46	2.2	1.5	2.1	1.3	5	13
30-39	2.5	1.5	1.4	.7	44	53	2.9	2.2	2.4	1.9	17	14
40-49	2.7	1.4	1.4	.7	48	50	4.8	3.7	4.3	3.2	10	14
50-59	3.7	2.0	1.9	1.0	49	50	10.0	6.7	9.1	5.9	9	12
60-69	5.0	3.0	2.7	1.6	46	47	24.6	14.0	22.1	12.5	10	11
70 and over	6.1	4.5	4.4	3.2	28	29	59.3	34.1	64.6	35.7	+9	+5

*Adjusted on basis of age distribution of the United States total population, 1940.
†Fewer than 15 deaths; percent change not computed.
‡Plus sign (+) denotes increase.

Source of basic data: Reports of Division of Vital Statistics, National Center for Health Statistics.

Hodgkin's Disease and Leukemia

Despite impressive progress in the treatment of Hodgkin's disease and leukemia during the past decade, each year about 18,000 die from these diseases. Among children under 15 years of age, Hodgkin's disease and leukemia account for about half of all cancer deaths. The American Cancer Society estimates that in 1982 there will be approximately 7,000 new cases of Hodgkin's disease and about 1,600 deaths, while 23,500 new cases and about 15,900 deaths from leukemia can be expected.

The table on page 2 presents recent mortality rates from Hodgkin's disease and from leukemia among Standard Ordinary policyholders of the Metropolitan Life Insurance Company and for the United States general population. Death rates are shown in 10-year age groups, as well as at all ages combined, in 1967-69 and 1977-79 for insured lives and in 1967-68 and 1977-78 for the general population, with the percent change computed for the 10-year period. The death rates at all ages have been standardized to allow for differences in age distribution.

Hodgkin's disease (cancer of the lymphatic system) is rare among children under 5 years of age but the incidence increases rapidly, reaching a peak between 15 and 34 years of age and a second peak after 50 years of age. Among males at all ages combined in the general population, the mortality from Hodgkin's disease decreased by 43 percent, from 2.1 to 1.2 per 100,000, during the 10-year period from 1967-68 to 1977-78. There was a 46-percent decline in mortality among women, from 1.3 to 0.7 per 100,000, during the same period. The death rates for both men and women decreased for every age group shown, with the largest decline (67 percent) occurring among males aged 10-19. With the exception of the experience at ages 70 and over, there was an overall decline of about 50 percent in the mortality from Hodgkin's disease for both men and women. At ages 70 and over, the mortality decreased by about 30 percent.

Among insured lives, the decline in mortality from Hodgkin's disease was of about the same magnitude as that for the general population. In the period from 1967-69 to 1977-79, the age-adjusted death rate from Hodgkin's disease among men decreased by 40 percent, from 2.0 to 1.2 per 100,000. Among insured women, the rate fell by 50 percent, from 1.4 to 0.7 per 100,000. During the 10-year period, mortality from Hodgkin's disease among insured lives declined in every age group shown.

Reports of the National Cancer Institute indicate that Hodgkin's disease patients have had the best survival of lymphoma patients.[1] The five-year relative survival rate* has increased from 30 percent among white patients diagnosed in 1950-54 to 54 percent for those diagnosed in 1965-69. Female patients had a slight edge in survival rates over male patients. Radiotherapy alone was used in the treatment of more than 40 percent of patients with Hodgkin's disease diagnosed in 1970-73, while an additional 17 percent received chemotherapy and/or hormone treatment. In recent years, more patients with Hodgkin's disease have been treated with some form of definitive therapy. While 14 percent of the cases diagnosed in 1950-54 did not receive treatment, only 6 percent of the cases in 1970-73 were in this category.

Leukemia (cancer of the blood-forming tissues) is the leading cause of cancer death among males under 35 years of age and among females under 25. Among women in the age group 25-34, leukemia as a cause of death is ranked second only to breast cancer. In 1978, the latest year for which mortality data are available, leukemia accounted for more than 15,000 deaths; about 1,000 of these deaths were among children under 15 years of age.

As shown in the table, mortality rates from leukemia in the general population were lower at ages under 40 than at the older ages. At ages 40 and over, the death rates increased steadily with advancing age, reaching a peak at ages 70 and over. Among men at all ages combined, the death rate from leukemia declined by 8 percent, from 7.5 per 100,000 in 1967-68 to 6.9 per 100,000

*The relative survival rate is the ratio of the observed survival rate in a group of patients to the survival rate expected in a group in the general population similar to the patients with respect to age, sex, and calendar period of observation.

in 1977-1978. The decrease in mortality among women was somewhat greater, with the death rate falling from 4.8 to 4.3 per 100,000, or by 10 percent. A decline in mortality was noted for every age group except the oldest; at ages 70 and over, mortality from leukemia rose by 9 percent among men and by 5 percent among women. The largest decrease in mortality was recorded among children under 10 years of age (41 percent for boys and 44 percent for girls), followed by a decline of 19 percent for males and 22 percent for females at ages 10-19. Between ages 20 and 70, the decrease in mortality ranged from a low of 5 percent at ages 20-29 to a high of 17 percent at 30-39 years among men. Among women, the decline in mortality varied from 11 percent at ages 60-69 to 14 percent at ages 30-49.

Among insured lives, mortality from leukemia declined by 19 percent among males and by 6 percent among females. The largest decrease occurred among children under 10 years of age—72 percent for boys and 59 percent for girls. Among insured males, mortality declined for all age groups except 10-19; at these ages, death rates increased by 21 percent during the 10-year period. Among insured females, mortality rose slightly at ages 20-59 and at ages 70 and over, but declined by 6 percent at ages 10-19 and 60-69.

About two out of every three leukemia cases are treated with chemotherapy, although hormone therapy (or a combination of both) may be used. The chances of survival depend to a great extent on the type of the disease. The survival experience among patients with acute leukemia was much less favorable than that for patients with chronic leukemia. According to follow-up studies[1] of the National Cancer Institute, the relative survival rate at the end of one year among white patients with all types of acute leukemia was 10 percent for cases diagnosed in 1950-54 and 38 percent for those diagnosed in 1970-73. The corresponding survival rates among those with chronic leukemia were 54 percent for cases diagnosed in the earlier period and 67 percent for those of the later period. The five-year survival rate in all types of acute leukemia was 3 percent for cases diagnosed in 1965-69, compared with 32 percent among those with chronic leukemia.

While the greatest gains in survival were registered at ages under 15 among patients with the acute types of leukemia, the three-year survival rate for all types of leukemia combined among this age group also rose sharply, from 3 percent in 1950-59 to 29 percent in 1967-73. The increase in survival rates for other age groups was much smaller than that recorded among children.

[1]Cancer Patient Survival, Report No. 5, National Cancer Institute, Bethesda, Maryland, 1976.

Cycling Accidents in the United States

With the tremendous increase in the popularity of pedal cycling* in recent years, nearly half the people in the United States now engage in this activity. The number of pedal cycles (mostly bicycles) has increased by about 50 percent in the past 25 years—from 42.3 million in 1968 to an estimated 62-65 million in 1981. By 1979, bicycles were outselling passenger cars—10.8 million bicycles compared with 10.7 million cars. Currently, there is one bicycle for every two registered passenger cars.

Several factors have contributed to the increased participation in bicycle riding. The health and recreational benefits are substantial, and in urban areas cycling offers mobility comparable to motor travel. The advantages of this inexpensive, quiet, and nonpolluting form of transportation are offset, however, by a lack of adequate facilities (bikeways, secure parking areas, etc.), inconvenience during bad weather, and—of even greater concern—an increase in the number of accidents.

According to reports of the United States Consumer Product Safety Commission (CPSC), the number of product-related injuries involving bi-

*Use of a vehicle propelled by human power and operated solely by pedals

TABLE 1—DEATHS AMONG RIDERS OF PEDAL CYCLES

By Type of Accident,* United States, 1960-1978

Year	Total	Collision with Motor Vehicle	Not Involving Motor Vehicle	Death Rate Per Million Population
1960	502	451	51	2.8
1965	706	628	78	3.6
1968	744	683	61	3.7
1969	771	703	68	3.8
1970	743	663	80	3.7
1971	806	728	78	3.9
1972	956	864	92	4.6
1973	991	897	94	4.7
1974	989	889	100	4.7
1975	891	801	90	4.2
1976	822	736	86	3.8
1977	846	778	68	3.9
1978	824	756	68	3.8

*Excluding deaths in railroad-crossing collisions with trains; data not available.

Source of basic data: Reports of the Division of Vital Statistics, National Center for Health Statistics.

TABLE 2—DEATHS AMONG RIDERS OF PEDAL CYCLES

By Age, United States, 1968 and 1978

Age Group	Number of Deaths*		Death Rate Per Million Population	
	1968	1978	1968	1978
All Ages	744	824	3.7	3.8
Under 1	—	—	—	—
1-4	7	14	.5	1.1
5-9	224	164	10.7	9.7
10-14	315	257	15.6	13.8
15-19	78	147	4.3	7.0
20-24	10	55	.7	2.7
25-34	19	68	.8	2.0
35-44	11	24	.5	1.0
45-54	26	18	1.1	.8
55-64	20	23	1.1	1.1
65-74	23	29	2.0	1.9
75 and over	11	25	1.5	2.7

*Excluding deaths in railroad-crossing collisions with trains; data not available.

Source of basic data: Reports of the Division of Vital Statistics, National Center for Health Statistics.

cycles has been rising each year. Bicycles were associated with more than 500,000 hospital-treated injuries in 1980 (compared with about 460,000 football and 440,000 baseball injuries). Estimates of the average number of cycling injuries requiring medical attention or causing one or more days of restricted activity have ranged as high as one million annually.

As shown in Table 1, the death toll among cyclists rose from 502 in 1960 to a high of 991 in 1973, but decreased thereafter. In 1978, the latest year for which official figures are available, there were 824 deaths, resulting in an accident death rate of 3.8 per million population among riders of pedal cycles. Collisions with motor vehicles were responsible for more than 90 percent of all accident fatalities among cyclists during 1978, underscoring the increasing risk to the cyclist in today's heavy traffic. Nonfatal cycling injuries, on the other hand, were more numerous in accidents that did not involve motor vehicles.

Changes in bicycle use are reflected in Table 2, which indicates that between 1968 and 1978 the proportion of cycling deaths among children decreased while fatalities among adults increased. Children under 15 years of age accounted for about three fourths of all cycling deaths in 1968 but for only about one half in 1978. During the same period, the proportion of fatalities among cyclists between the ages of 15 and 24 rose from one eighth to one fourth and fatalities among adults 25 years of age and older from one seventh to almost one fourth. As in 1968, the peak death rate in 1978 (13.8 per million population) occurred at ages 10-14 and the second highest rate (9.7) at ages 5-9. At ages 15-19, however, the 1978 death rate was nearly double the 1968 rate. At ages 20-44 and ages 75 and over, death rates from cycling accidents were substantially higher than the corresponding rates in 1968.

For a number of years the National Safety Council, state and local governments, and many other public and private organizations have been promoting safety education for bicycle riders, and for young cyclists in particular. The CPSC has issued safety standards governing the design of bicycles. Many states have enacted laws requiring that a bicycle be equipped with a headlight, tail light, and reflectors, and that the bicyclist observe traffic regulations. However, enforcement of such laws is difficult. Epidemiological studies investigate the nature of bicycle accidents, the characteristics of the population in which they occur, riding behavior, and type of riding errors. The findings of such studies are useful in designing bicycle safety campaigns and in formulating certain laws on bicycle use.

One study,[1] supported by a grant from the Bicycle Manufacturers Association of America, involved an extensive analysis of two sets of data collected by CPSC—a national sample of reports from hospital emergency rooms that record visits due to product-related accidents and a group of 646 in-depth investigations of bicycle-associated accidents. One conclusion of the study was that the voluntary manufacturing standard suggested by the Bicycle Manufacturers Association had resulted in a substantial reduction in frame failures associated with bicycle accidents. The study also indicated that there had been a marked increase in the use of bicycles by older individuals.

Another study[2] of 192 persons injured in bicycle accidents, who were treated in the emergency room of a large hospital in Minneapolis during a one-year period, indicated that the most common soft-tissue injuries involved the head and face and the most frequent skeletal injuries were those of the wrist and hand. Other significant factors associated with the accidents included mechanical or structural defects in the bicycle, collisions with motor vehicles, riding on a surface covered by loose sand or gravel, and errors in turning or going downhill. The findings suggest that the establishment by the bicycle industry of minimum standards in bicycle design, strength, and performance would prevent many accidents.

The increasingly large mix of bicycle-motor vehicle traffic points up the necessity for the development of more bikepaths and bikeways to separate pedal cycles from motor vehicles. It is also imperative that cyclists obey all traffic regulations. Motorists, too, have some responsibility. While the cyclist must practice correct traffic behavior, the automobile, bus, or truck driver should be on the alert for the smaller vehicles and be ready to pull away slightly or reduce speed when passing them.

[1] Flora JD, Abbott RD: National trends in bicycle accidents. *Journal of Safety Research* 11:20-27, Spring 1979.
[2] Davis MW, Litman T, Crenshaw RW, et al: Bicycle injuries. *The Physician and Sportsmedicine* 8:86-96, May 1980.

Passenger Fatalities in Flying on Scheduled Airlines

Travel on United States, Canadian, and Western European airlines increased during the 1976-80 period. Revenue passenger miles flown rose by 40 percent, while the number of revenue passengers carried increased by about 30 percent. Passenger load factors (percent of capacity utilized) rose from 55 percent in 1976 to 59 percent in 1980 on United States airlines and from 60 to 67 percent on Canadian airlines, but decreased from 62 to 60 percent on airlines in Western Europe. The growth in passenger flying on United States carriers was nearly double that during the 1970-75 period,* while the growth rates on Canadian and Western European airlines were about two thirds that experienced in the earlier period.

Between 1976 and 1980, the number of revenue passenger miles flown by United States certificated† airlines on domestic flights increased from about 145 billion miles to 200 billion miles, or by 38 percent. In the same period, aircraft departures on domestic flights increased by 12 percent, from 4.58 million to 5.12 million. The number of revenue passengers carried also increased from 206 to 273 million, or by 33 percent. On international flights of United States airlines the number of revenue passenger miles flown increased from 34 billion in 1976 to 54 billion in 1980, while aircraft departures were reduced from about 235,000 to 223,000. The number of revenue passengers carried on international flights rose from 17 to 24 million. During this period, there was a marked increase in the number of airlines in the United States, from 33 carriers in 1976 to 60 in 1980.

In Canada, the number of revenue passenger miles flown on domestic flights increased by 41 percent, from 8.73 billion miles in 1976 to 12.27 billion miles in 1980. During the same period, the number of aircraft departures on domestic flights increased from 310,000 to 314,000, or by only 1 percent. The number of revenue passengers carried increased from 13 to 17 million. On international flights of Canadian airlines, the number of revenue passenger miles flown rose from 7.40 to 10.07 billion miles in the five-year period, while aircraft departures showed only a 4 percent increase from 57,000 to 59,000. The number of passengers carried on such international flights grew from 4.1 million to 5.4 million, or by 31 percent.

On the scheduled airlines of Western Europe, the number of revenue passenger miles flown on domestic and international flights combined increased from 81 billion miles in 1976 to 111 billion miles in 1980, or by 37 percent. Aircraft departures also increased during this period—from about 1.4 million in 1976 to 1.5 million in 1980—or by 6 percent. The number of passengers carried rose from 78 million to 97 million for an increase of 24 percent.

Increases in air traffic during the 1976-80 period should be used with caution in predicting future growth. The widespread economic recession and high fuel and wage costs have had an adverse effect on world air transport in more recent years. Many airlines experienced lower growth rates than had occurred in the past fifty years, and a few airlines showed a decrease.

*See February 1977 issue of the *Statistical Bulletin*.

†A certificated airline is an air carrier holding a certificate of public convenience and necessity issued by the Civil Aeronautics Board to conduct scheduled services over specified routes.

TABLE 1—PASSENGER FATALITY RATES ON UNITED STATES AIRLINES, 1976-1980

All Scheduled Airlines

Year	Fatal Accidents	Fatal Accidents Per Thousand Revenue Aircraft Departures	Passenger Fatalities: Number of Deaths	Passenger Fatalities: Per Million Revenue Passenger Miles	Passenger Fatalities: Per Million Revenue Passengers Carried	Passenger Fatalities: Per Thousand Revenue Aircraft Departsres
Domestic Flights						
1976.....	1	.0002	1	—	.0049	.0002
1977.....	1	.0002	60	.0004	.2703	.0128
1978.....	3	.0006	13	.0001	.0512	.0027
1979.....	2	.0004	259	.0012	.8840	.0504
1980.....	1	.0002	11	.0001	.0403	.0021
1976-80.....	8	.0003	344	.0004	.2756	.0141
International Flights						
1976.....	1	.0043	35	.0010	2.0588	.1489
1977.....	—	—	—	—	—	—
1978.....	—	—	—	—	—	—
1979.....	1	.0042	59	.0011	2.4583	.2480
1980.....	—	—	—	—	—	—
1976-80.....	2	.0018	94	.0004	.9038	.0827
All Flights						
1976.....	2	.0004	36	.0002	.1263	.0075
1977.....	1	.0002	60	.0003	.2500	.0122
1978.....	3	.0006	13	.0001	.0473	.0026
1979.....	3	.0006	318	.0012	1.0032	.0591
1980.....	1	.0002	11	—	.0297	.0021
1976-80.....	10	.0003	438	.0004	.2582	.0142

Source of basic data: Reports of Civil Aeronautics Board and National Transportation Safety Board.

New definitions for categorizing United States certificated airlines (formulated by the Civil Aeronautics Board) became effective in January 1981. Designated as major carriers‡ were airlines with annual operating revenues of more than one billion dollars; these carriers were formerly known as the trunk lines. The other carrier groups (with revenues of one billion dollars or less) are now known as the national, large regional, and medium regional airlines; these were formerly called the regional, local service, Hawaiian, Alaskan, other system carriers, and other carriers.

Table 1 on page 8 presents the record of accidents and fatalities on United States certificated airlines in 1976-1980. In terms of number of passenger fatalities and fatality rates, the experience on both domestic and international flights in 1976-80 showed improvement over the record for 1970-75. The passenger fatality rate of .0004 per million revenue passenger miles on domestic flights in 1976-80 was less than half the rate in the earlier period. On international flights the improvement was even greater; the fatality rate among passengers decreased from .0013 to .0004 per million revenue passenger miles.

There were 271 passenger fatalities in four accidents on domestic flights of the major carriers in 1976-80. Another four accidents occurred on other carriers, with 73 passenger fatalities. On international flights, the major carriers accounted for all 94 passenger fatalities. Most international flights are undertaken by the major carriers, al-

‡American, Braniff, Continental, Delta, Eastern, National (merged with Pan American in 1980), Northwest, Pan American, Trans World, United, and Western.

TABLE 2—PASSENGER FATALITY RATES ON CANADIAN AND SELECTED WESTERN EUROPEAN AIRLINES, 1976-1980

Scheduled Domestic and International Flights

Year	Fatal Accidents	Fatal Accidents Per Thousand Revenue Aircraft Departures	Passenger Fatalities: Number of Deaths	Passenger Fatalities: Per Million Revenue Passenger Miles	Passenger Fatalities: Per Million Revenue Passengers Carried	Passenger Fatalities: Per Thousand Revenue Aircraft Departures
Canadian Airlines*						
1976	—	—	—	—	—	—
1977	—	—	—	—	—	—
1978	2	.0057	41	.0023	2.2185	.1175
1979	1	.0027	14	.0007	.6549	.0378
1980	—	—	—	—	—	—
1976-80	3	.0017	55	.0006	.5500	.0303
Western European Airlines†						
1976	2	.0014	100	.0012	1.2755	.0718
1977	1	.0007	123	.0014	1.4784	.0886
1978	1	.0007	103	.0010	1.1196	.0696
1979	1	.0007	14	.0001	.1429	.0094
1980	1	.0007	2	—	.0206	.0014
1976-80	6	.0008	342	.0007	.7626	.0473

*Air Canada, CP Air, Eastern Provincial Airways, Nordair Ltd., Pacific Western Airlines, Quebecair.

†IATA member airlines: Aer Lingus/Aerlinte, Air France, Air Malta, Alitalia-Linee Aeree Italiane, Austrian Airlines, British Airways, British Caledonian, Finnair, Iberia, Icelandair, KLM, Lufthansa, Olympic Airways, Sabena, Scandinavian Airlines System, Swissair, Tap, Union De Transports Ariens.

Source of basic data: Reports of Minister of Supply and Services Canada, International Air Transport Association, and *Flight International*.

though some of the other carriers provide service to nearby places, such as Canada and Mexico.

During 1980 the major carriers accounted for 72 percent of all passengers carried but for only 56 percent of all aircraft departures. The use of wide-body aircraft, with their much greater capacity, has enabled the airlines to carry more passengers with fewer aircraft departures. The major carriers generally use more of the larger planes than do other carriers.

Canadian and Western European airlines also recorded an improvement in passenger fatality experience. The fatality rates on these airlines are shown in Table 2, which presents the experience for domestic and international operations combined. With only three fatal accidents in the 1976-80 period, the passenger fatality rate of .0006 per million revenue passenger miles on Canadian airlines was less than half the rate in 1970-75. All Canadian accidents occurred in Canada. The data shown relate to Canadian airlines which account for approximately 80 percent of the total operating revenues of the Canadian air transport industry.

On the airlines of Western Europe (members of the International Air Transport Association), the passenger fatality rate was reduced from .0014 per million revenue passenger miles in 1970-75 to .0007 in 1976-80. In this period, the passenger fatalities per thousand revenue aircraft departures decreased from .0707 in 1970-75 to .0473 in 1976-80.

Mortality in the United States, Canada, and Western Europe

There was a significant decline in mortality from all causes among men and women in the United States, Canada, and most countries of Western Europe during the decade from 1966-67 to 1976-77. This decrease in death rates can be attributed in part to the pronounced decline in mortality from the cardiovascular diseases during these years.*

There were only a few exceptions to the generally downward trend of mortality. In Northern Ireland, death rates among men in every age group past 25 increased during this period. In Denmark the mortality among men aged 25-44 increased slightly and at ages 45-64 remained unchanged. Death rates increased among men at ages 45-64 in Norway and Sweden, and among men at ages 65 and over in the Netherlands and Belgium. The only increase in death rates among women occurred at ages 45-64 in Northern Ireland and Scotland.

Mortality rates in the United States are often compared with the rates in individual countries of Western Europe. Because of its size, population, diversity, and degree of industrialization, the United States is more reasonably regarded as a continent rather than as a homogeneous national entity (such as Denmark, Norway, Sweden, or the Netherlands). It is, therefore, more appropriate to compare death rates for the United States as a whole with the rates for the large block of industrialized countries such as the United Kingdom, Belgium, France, Germany, and Switzerland. These nations as a group more closely resemble the United States in size of population, degree of industrialization, variety of ethnic and cultural strains, and range of socioeconomic conditions.

Tables 1 and 2 present a comparison of death rates from all causes in the United States, Canada, and the principal countries of Western Europe in 1966-67 and 1976-77, the most recent period for which such data are available. Because the age composition of the population varies considerably from one country to another, the death rates have been age adjusted to allow for the effects of such differences in age distribution.

During 1976-77 standardized mortality rates among males ranged from a low of 7.1 per 1,000 in the Scandinavian countries and the Netherlands as a group, to 7.7 in Canada, 8.2 in the United States, and 8.4 in the block of more industrialized Western European countries. Among women the lowest rate—4.2 per 1,000—was recorded in the Scandinavian countries and the Netherlands, followed by 4.3 in Canada, 4.6 in the United States, and 4.9 in the block of more industrialized countries.

Among the individual European countries under review, mortality was highest in Northern Ireland—9.8 per 1,000 among men and 6.0 per 1,000 among women. The lowest mortality among men was recorded in Sweden (6.8 per 1,000), while women in Switzerland had the most favorable experience (4.0 per 1,000).

In 1976-77, death rates among males at ages under 25 varied from a low of 1.0 per 1,000 in the Scandinavian countries and the Netherlands as a group, to 1.4 in the more industrialized Western European countries, 1.5 in Canada, and 1.6 in the United States. At ages 25-44, males in the Scandinavian countries and the Netherlands had the lowest mortality (1.5 per 1,000), while the rate in Canada and the more industrialized countries of Western Europe was 2.0, and that in the United States 2.5.

At ages 45-64, death rates among men were lowest once again in the Scandinavian countries and the Netherlands, followed by the rates in Canada, the Western European countries, and the

*See the Oct-Dec 1980 issue of the *Statistical Bulletin*.

TABLE 1—MORTALITY AMONG MEN IN SELECTED COUNTRIES, 1966-67 AND 1976-77

Average Annual Death Rate* per 1,000 Population

Country	1966-67 All Ages	1966-67 Ages Under 25	1966-67 Ages 25-44	1966-67 Ages 45-64	1966-67 Ages 65 and Over	1976-77 All Ages	1976-77 Ages Under 25	1976-77 Ages 25-44	1976-77 Ages 45-64	1976-77 Ages 65 and Over
United States										
White	9.1	1.8	2.5	14.4	69.0	7.9	1.5	2.2	12.1	61.4
Nonwhite	12.6	3.0	6.4	22.3	72.6	10.6	2.3	5.3	19.5	60.3
Total	9.5	2.0	2.9	15.2	69.2	8.2	1.6	2.5	12.9	61.3
Canada	8.3	1.9	2.2	12.3	64.2	7.7	1.5	2.0	11.5	61.2
Denmark	7.8	1.4	1.6	10.7	66.6	7.4	1.0	1.7	10.7	62.6
Norway	7.1	1.3	1.7	9.6	60.7	7.0	1.1	1.5	9.7	60.3
Sweden	7.0	1.2	1.8	8.9	61.0	6.8	.9	1.8	9.3	59.4
Netherlands	7.3	1.4	1.5	10.4	61.3	7.2	1.0	1.3	10.0	63.7
Weighted Average	7.3	1.3	1.8	9.9	62.0	7.1	1.0	1.5	9.9	61.6
United Kingdom										
England and Wales	8.9	1.5	1.6	12.7	77.0	8.3	1.2	1.4	11.9	73.5
Northern Ireland	9.1	1.7	1.8	13.2	76.8	9.8	1.7	2.2	13.9	82.1
Scotland	10.0	1.6	2.2	15.2	81.9	9.5	1.3	2.0	14.6	80.2
Belgium	9.2	1.8	2.1	13.7	74.8	8.9	1.4	1.9	12.6	76.1
France	8.6	1.5	2.5	13.2	67.2	8.1	1.3	2.4	12.4	63.2
Germany, Federal Republic	9.2	1.9	2.2	12.9	75.3	8.7	1.6	2.2	11.8	72.7
Switzerland	8.0	1.6	1.9	10.8	66.2	7.0	1.2	1.6	9.5	59.8
Weighted Average	8.9	1.7	2.1	13.0	73.3	8.4	1.4	2.0	12.1	70.2

*Adjusted on basis of age distribution of the United States total population, 1940.

Note: Belgium and France—data for 1977 not available; 1976 figures used.

Source of basic data: National Center for Health Statistics, and *World Health Statistics Annual*.

TABLE 2—MORTALITY AMONG WOMEN IN SELECTED COUNTRIES, 1966-67 AND 1976-77

Average Annual Death Rate* per 1,000 Population

Country	1966-67 All Ages	1966-67 Ages Under 25	1966-67 Ages 25-44	1966-67 Ages 45-64	1966-67 Ages 65 and Ove.	1976-77 All Ages	1976-77 Ages Under 25	1976-77 Ages 25-44	1976-77 Ages 45-64	1976-77 Ages 65 and Over
United States										
White	5.3	1.1	1.3	6.8	45.3	4.3	0.8	1.1	6.2	35.5
Nonwhite	8.5	2.0	3.7	14.6	52.1	6.3	1.5	2.4	10.9	40.5
Total	5.7	1.2	1.6	7.6	45.8	4.6	.9	1.3	6.7	36.0
Canada	5.1	1.2	1.2	6.4	43.3	4.3	.8	1.0	5.6	37.5
Denmark	5.4	.9	1.2	6.4	49.4	4.6	.6	1.1	6.3	40.2
Norway	4.7	.8	.8	4.9	45.3	4.1	.6	.7	4.6	38.9
Sweden	4.8	.7	1.0	5.1	45.5	4.1	.6	.9	4.8	38.6
Netherlands	4.8	.8	1.0	5.3	44.7	4.1	.6	.8	4.8	38.4
Weighted Average	4.9	.8	1.0	5.4	45.8	4.2	.6	.9	5.0	38.8
United Kingdom										
England and Wales	5.4	1.0	1.1	6.7	49.0	5.1	.8	1.0	6.5	46.3
Northern Ireland	6.0	1.2	1.3	7.1	54.1	6.0	1.0	1.2	7.7	52.9
Scotland	6.3	1.1	1.4	8.1	55.0	5.8	.8	1.2	8.2	49.9
Belgium	5.8	1.2	1.2	6.8	52.2	5.3	.9	1.1	6.1	48.7
France	5.0	1.0	1.3	6.0	43.6	4.4	.8	1.1	5.1	39.3
Germany, Federal Republic	5.8	1.2	1.3	6.8	62.2	5.1	.9	1.1	6.0	46.4
Switzerland	5.1	1.0	1.0	5.6	47.2	4.0	.7	.8	4.5	37.7
Weighted Average	5.5	1.1	1.2	6.6	48.8	4.9	.8	1.1	5.9	44.4

*Adjusted on basis of age distribution of the United States total population, 1940.

Note: Belgium and France—data for 1977 not available; 1976 figures used.

Source of basic data: National Center for Health Statistics, and *World Health Statistics Annual*.

United States. At ages 65 and over, however, the ranking changed, with the lowest mortality among men recorded in Canada, closely followed by that in the United States—approximately 61 per 1,000 in both countries. In the Scandinavian countries and the Netherlands as a group, the death rate at the older ages was 62 per 1,000, while the rate in the industrialized countries of Western Europe was 70 per 1,000.

A comparison of the death rates by sex indicates that the level of mortality among women is significantly lower than that among men. For all ages combined the age-adjusted death rates among women were three fifths of the rates for men. There is some variation in the sex differential in mortality by age group, with the least difference occurring at ages 45-64 and the greatest at ages 65 and over.

During the 1976-77 period, mortality rates among women at ages under 25 ranged from a low of 0.6 per 1,000 in the Scandinavian countries and the Netherlands as a group, to 0.8 in Canada and the industrialized countries of Western Europe, and to 0.9 in the United States. At ages 25-44 and 45-64 the ranking was the same, with the lowest mortality recorded in the Scandinavian countries and the Netherlands and the highest in the United States. At ages 65 and over, death rates among women in the United States showed a greater decline in the 10-year period than did the rates in the other blocks of countries. As a result, the mortality among women in 1976-77 was lowest in the United States at 36.0 per 1,000, followed by 37.5 in Canada, 38.8 in the Scandinavian countries and the Netherlands, and 44.4 in the Western European countries.

Frequency and Causes of Long-Term Disability Among Metropolitan Employees

About one in every 100 employees of the Metropolitan Life Insurance Company becomes disabled each year for a period lasting longer than six months. Moreover, male sales personnel register a substantially higher disability rate than do other classes of employees. These are the principal findings of a special study of long-term disability among the Company's employees during the four-year period 1977-80.

New cases of disability lasting longer than six months among employees covered under the Company's Group insurance program occurred at an annual rate of 7.7 per 1,000 among men in the Home and Head Offices and 7.3 per 1,000 among female office personnel. An annual disability rate of 9.6 per 1,000 was recorded among female sales personnel. However, the incidence of disability among male sales personnel—at an annual rate of 18.7 per 1,000—was about twice that of any other class of employees. (See table on page 14.)

The frequency of long-term disability rose sharply with advance in age. As shown in the table, the disability rate among male office employees increased from 1.9 per 1,000 at ages under 45, to 7.8 at ages 45-54, 20.7 at ages 55-59, and reached 31.0 per 1,000 at ages 60-64. Over this same age span the disability rate among male sales personnel soared from 6.1 to 57.4 per 1,000. The incidence of disability lasting longer than six months among female office employees increased from 3.5 per 1,000 at ages under 45 to more than 21 per 1,000 at ages 60-64, while the rate among female sales employees rose from 5.4 to nearly 37 per 1,000. For all the age groups shown, the highest rates were recorded by male sales personnel, followed by the rates among female sales personnel.

INCIDENCE OF DISABILITY LASTING LONGER THAN SIX MONTHS

Personnel of the Metropolitan Life Insurance Company,* 1977-80

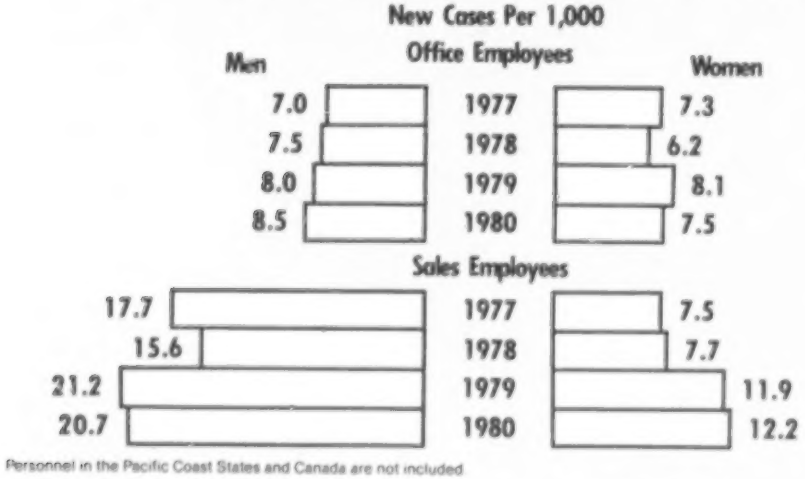
Annual Incidence per 1,000

Cause of Disability	Office Personnel					Sales Personnel				
	Ages 17-64	Ages 17-44	Ages 45-54	Ages 55-59	Ages 60-64	Ages 17-64	Ages 17-44	Ages 45-54	Ages 55-59	Ages 60-64
Male										
All Causes	7.7	1.9	7.8	20.7	31.0	18.7	6.1	18.5	41.4	57.4
Diseases of respiratory system	†	†	†	†	†	.6	†	(.5)	1.4	2.9
Diseases of digestive system	†	†	†	†	†	.7	†	1.0	1.2	(2.0)
Diseases of circulatory system	2.9	(.5)	2.7	7.2	14.6	7.0	.9	6.7	19.1	23.9
Diseases of heart	2.3	†	(2.2)	5.3	12.0	5.8	.8	5.5	15.7	19.8
Diseases of musculoskeletal system	.9	†	(1.5)	(2.9)	†	2.9	1.6	2.6	5.0	8.2
Neoplasms	.8	†	(1.2)	†	(3.2)	1.3	†	1.7	2.8	4.1
Diseases of nervous system	.5	†	†	†	(3.2)	.8	(.2)	.7	1.5	2.9
Psychoneuroses and psychoses	(.5)	†	†	†	†	2.2	1.5	2.3	4.0	3.2
Accidental injuries	.6	(.5)	†	†	†	.7	.7	(.5)	(.8)	(1.5)
Female										
All Causes	7.3	3.5	7.2	13.7	21.3	9.6	5.4	9.1	22.2	36.8
Diseases of respiratory system	†	†	†	†	†	(.5)	†	†	†	†
Diseases of digestive system	.3	†	†	†	†	(.3)	†	†	†	†
Diseases of circulatory system	1.1	†	(.9)	3.2	5.5	2.1	†	(1.4)	7.6	16.0
Diseases of heart	.8	†	†	2.4	4.4	1.5	†	†	6.0	(11.2)
Diseases of musculoskeletal system	1.3	.5	1.8	2.8	3.1	2.1	1.5	(1.9)	(4.8)	†
Neoplasms	1.1	(.4)	1.2	(1.8)	3.9	(.8)	†	†	†	†
Diseases of nervous system	.5	(.4)	†	†	(2.1)	(.4)	†	†	†	†
Psychoneuroses and psychoses	1.0	.9	1.5	†	†	1.5	(.8)	(1.6)	(4.2)	†
Accidental injuries	.7	(.2)	(.7)	(1.2)	2.9	(.4)	†	†	†	†

*Personnel of the Pacific Coast States and Canada are not included.
†Fewer than five cases in this category.
( ) Figures in parentheses are based on five to nine cases.

Incidence of Disability Lasting Longer Than Six Months

Personnel of the Metropolitan Life Insurance Company, 1977 to 1980



Personnel in the Pacific Coast States and Canada are not included

Among men of all ages, diseases of the circulatory system, mainly those involving the heart, were the leading cause of disability lasting longer than six months. Such conditions accounted for more than a third of all long-term disabilities among males in both employee classes—office and sales--and led at ages 45 and over. The proportion of disability cases attributed to circulatory disorders rose with increase in age, reaching more than two fifths at ages 60-64. Diseases of the musculoskeletal system were next in frequency, followed by psychoneuroses and psychoses, and then by neoplasms.

Among women, the causes of disability lasting longer than six months were widely distributed among the various disease categories. Diseases of the musculoskeletal system had the highest incidence among female office employees (18 percent of the total), followed by diseases of the circulatory system (16 percent) and neoplasms (15 percent). Among female sales employees, the order was reversed; circulatory disorders (22 percent) were the most frequent cause of disability, followed by diseases of the musculoskeletal system (21 percent). For both female office employees and female sales personnel, diseases of the circulatory system were the most common cause of disability at ages 55 and over. At the younger ages diseases of the musculoskeletal system and psychoneuroses and psychoses were the most frequent.

Additional information by calendar year is given separately for each employee group in the chart shown above. The incidence of disability lasting longer than six months generally increased over the period of the study. In every instance the rate was higher in 1980 than in 1977. Among office employees the disability rate among males rose from 7.0 per 1,000 in 1977 to 8.5 per 1,000 in 1980, while the incidence among female personnel increased from 7.3 to 7.5 per 1,000 over the same period. Among sales employees, the disability rate increased from 17.7 to 20.7 per 1,000 among men and from 7.5 to 12.2 per 1,000 among women.

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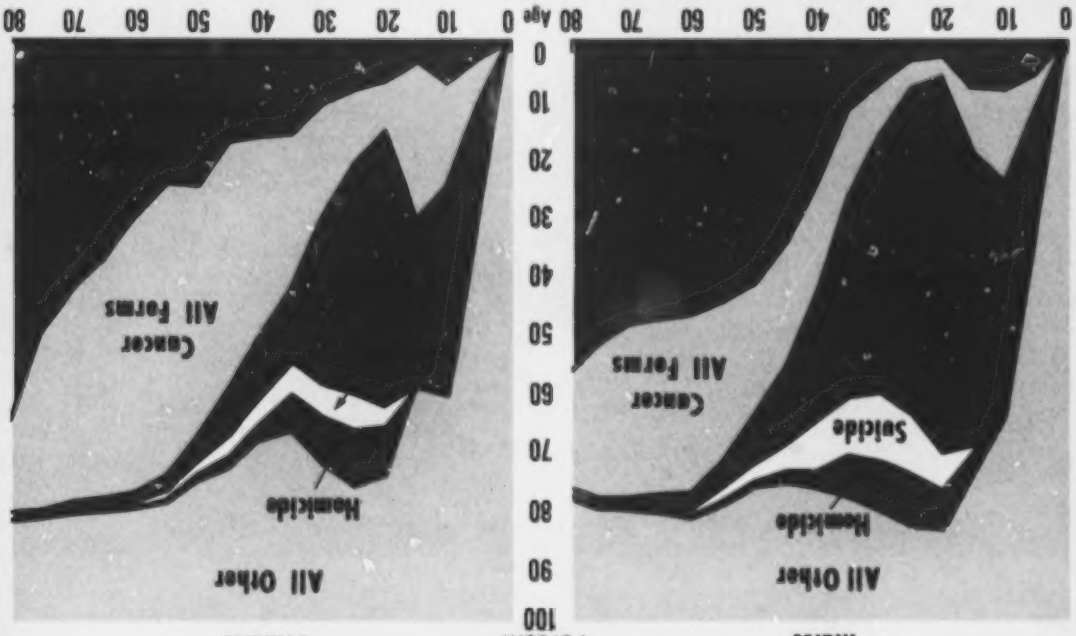
Percent of Deaths From Selected Causes, 1980

Standard Ordinary Policyholders - Metropolitan Life Insurance Company



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Health of the Elderly
Accident Death Toll in 1981
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TABLE 1—FREQUENCY OF CHRONIC CONDITIONS

United States, 1980

Health Status	Percent Distribution			
	All Ages	Under Age 45	Ages 45-64	Ages 65 and Over
All Persons	100.0	100.0	100.0	100.0
Persons with no activity limitation	85.6	93.2	76.1	54.8
Persons with activity limitation	14.4	6.8	23.9	45.2
With limitation in major activity	10.9	4.1	18.8	39.0
Unable to carry on major activity	3.7	.8	6.4	17.2
Persons limited in activity*				
All degrees of limitation	100.0	100.0	100.0	100.0
Arthritis and rheumatism	17.0	5.1	20.1	25.3
Heart conditions	16.3	4.4	20.3	23.9
Hypertension without heart involvement	9.2	3.0	12.1	12.2
Visual impairments	4.5	3.9	3.2	6.4
Diabetes	5.2	2.3	6.9	6.3
Unable to carry on major activity	25.0	10.9	26.9	36.7
Arthritis and rheumatism	4.4	.6	4.6	7.7
Heart conditions	6.3	.6	7.8	10.2
Hypertension without heart involvement	2.6	.4	3.4	3.8
Visual impairments	1.5	.5	1.1	2.9
Diabetes	1.7	.5	2.0	2.7

*Survey year 1979

Source of basic data: National Center for Health Statistics

Health of the Elderly

Health problems are far more common among the elderly than among their juniors. Chronic disabling conditions occur more frequently and are likely to persist for longer periods of time among those 65 years of age or older than among those who are younger. In 1980—the latest year for which this type of information is available—nearly half (45 percent) of all noninstitutionalized persons aged 65 and over were reported to have a chronic health condition that limited their activities. In contrast, less than a quarter (24 percent) of those in the age range 45-64, and only about one in sixteen (7 percent) of those younger than 45 were so limited. (See Table 1 on the opposite page.)

Chronic disabling conditions—defined generally as those lasting longer than three months—are usually more severe among the elderly than among younger persons. In 1980, about seven eighths of the chronically disabled population aged 65 or older were restricted in their major activity—working at a job or keeping house—and three out of every eight were so severely disabled as to be unable to pursue this activity at all. At ages 45-64, about four fifths of the chronically disabled were restricted in their major activity, with about a quarter unable to carry on that activity. At ages under 45, three fifths of the disabled were limited in their major activity, and about a tenth were unable to function at all in such activity. A considerably greater proportion of men than women at ages 65 and over were unable to continue their usual activities, probably because men more often work outside the home.

Arthritis and rheumatism, followed closely by heart conditions, were the most common causes of activity limitation at ages 65 and over during the survey year. Among those unable to carry on their major activity, the order was reversed. Nearly half of the elderly were restricted to some degree by these two chronic conditions. Hypertension, visual impairments, and diabetes were also major causes of disability among those aged 65 or older.

As shown in Table 2, the elderly were restricted in their activities because of disabling conditions (mainly chronic) for about five and a half weeks in 1980, with about two weeks spent in bed. By comparison, disabling conditions restricted the activity of those aged 45-64 for less than four weeks, a little more than one week of which required confinement to bed. Among those under 45 years of age, activity was limited on the average for about two weeks, with less than a week spent in bed.

Acute conditions—defined as those conditions lasting less than three months and involving medical attention or activity restriction—occurred less frequently but were responsible for more disability days among the elderly than among those under age 65. In 1980, persons 65 years of age or older averaged 1.1 episodes of disability from acute conditions, compared with 1.4 such episodes among those aged 45-64, and 2.6 among those under age 45. During that year, persons aged 65 and over averaged 10.6 days of restricted activity because of acute conditions, four days of which were spent in bed, compared with 8.8 days of restricted activity and 3.6 days of bed confinement for those in the age range 45-64, and 10 days of restricted activity and 4.5 days of bed confinement among those under 45 years of age. For each episode of illness, those who were 65 years of age or older averaged 9.3 days of restricted activity

TABLE 2—FREQUENCY AND DAYS OF DISABILITY

United States, 1980

Health Incidents	All Ages	Under Age 45	Ages 45-64	Ages 65 and Over		
				Total	Male	Female
Frequency of Occurrence per 100 Persons						
All acute conditions	222	263	140	114	97	126
Infective and parasitic diseases	25	31	11	7	7	8
Respiratory conditions	116	136	77	60	51	67
Upper respiratory conditions	57	69	31	28	23	31
Influenza	52	60	40	27	23	31
Digestive system conditions	11	14	6	6	*	7
Injuries	33	39	23	19	14	22
Persons injured, total	31	36	22	17	13	19
Home injuries	12	13	10	10	6	13
Discharges from short-stay hospitals	14	11	17	28	31	26
Physicians visits	475	440	506	642	593	676
Average Number of Days of Restricted Activity per 100 Persons						
Acute and chronic conditions	1,911	1,377	2,653	3,923	3,481	4,232
All acute conditions	987	1,008	876	1,058	886	1,179
Infective and parasitic diseases	94	108	55	81	88	76
Respiratory conditions	432	449	371	436	400	461
Upper respiratory conditions	160	183	99	129	114	139
Influenza	216	216	208	224	196	244
Digestive system conditions	45	45	43	52	*	68
Injuries	221	212	240	241	189	278
Persons injured, total	357	290	487	547	444	619
Home injuries	86	51	134	223	96	312
Average Number of Days of Bed Confinement per 100 Persons						
Acute and chronic conditions	698	547	844	1,382	1,174	1,526
All acute conditions	427	447	358	420	325	486
Infective and parasitic diseases	51	60	25	39	*	*
Respiratory conditions	222	238	178	202	157	234
Upper respiratory conditions	67	81	36	39	*	53
Influenza	125	130	113	114	79	139
Digestive system conditions	22	21	24	25	*	*
Injuries	59	53	67	82	*	101
Persons injured, total	89	67	131	150	109	179
Home injuries	24	16	37	57	30	76
Average Number of Days of Restricted Activity per Occurrence						
All acute conditions	4.4	3.8	6.3	9.3	9.1	9.4
Infective and parasitic diseases	3.8	3.5	5.0	11.6	12.6	9.5
Respiratory conditions	3.7	3.3	4.8	7.3	7.8	6.9
Upper respiratory conditions	2.8	2.7	3.2	4.6	5.0	4.5
Influenza	4.2	3.6	5.2	8.3	8.5	7.9
Digestive system conditions	4.1	3.2	7.2	8.7	*	9.7
Injuries	6.7	5.4	10.4	12.7	13.5	12.6
Persons injured, total	11.5	8.1	22.1	32.2	34.2	32.6
Home injuries	7.2	3.9	13.4	22.3	16.0	24.0
Average Number of Days of Bed Confinement per Occurrence						
All acute conditions	1.9	1.7	2.6	3.7	3.4	3.9
Infective and parasitic diseases	2.0	1.9	2.3	5.6	*	*
Respiratory conditions	1.9	1.8	2.3	3.4	3.1	3.5
Upper respiratory conditions	1.2	1.2	1.2	1.4	*	1.7
Influenza	2.4	2.2	2.8	4.2	3.4	4.5
Digestive system conditions	2.0	1.5	4.0	4.2	*	*
Injuries	1.8	1.4	2.9	4.3	*	4.6
Persons injured, total	2.9	1.9	6.0	8.8	8.4	9.4
Home injuries	2.0	1.2	3.7	5.7	5.0	5.8

*Unreliable data

Source of basic data: National Center for Health Statistics

and 3.7 days of bed confinement. At ages 45-64, restricted activity averaged 6.3 days and bed confinement 2.6 days; at ages under 45, the average was 3.8 days of restricted activity and 1.7 days of bed confinement.

Disabling injuries also occurred less frequently but caused more disability days at ages 65 and over than at the younger ages. In 1980, 17 out of every 100 persons at ages 65 and over sustained an accidental injury, compared with 22 per 100 persons at ages 45-64, and 36 per 100 at ages under 45. The older age group averaged 5.5 days of restricted activity and 1.5 days of bed confinement that year, compared with 4.9 restricted activity and 1.3 bed confinement days for those aged 45-64. At ages under 45, the average was 2.9 restricted activity days and 0.7 days in bed. For each accidental injury, the elderly averaged 32.2 days of restricted activity and 8.8 days of bed confinement; those aged 45-64 averaged 22.1 and 6.0 such days, respectively. The corresponding figures for those under 45 were 8.1 days of restricted activity and 1.9 days in bed. Nearly two thirds of the injuries among the elderly occurred at home, reflecting the considerable amount of time they spend there.

Higher rates of hospitalization and of physicians visits were registered by persons at ages 65 and over. This reflects to some extent the virtually universal health coverage provided by Medicare at these ages. More than one in four persons at ages 65 and over spent some time in the hospital in 1980, compared with one in six at ages 45-64, and one in nine at ages under 45. The elderly averaged 6.4 physicians visits during the year, as against 5.1 visits for those 45-64 years of age and 4.4 for those under 45.

In most classifications women aged 65 or older recorded more days of disability than did men, reflecting the higher frequency of disabling conditions among women. At these ages men generally averaged more days of restricted activity but fewer days of bed confinement per occurrence than did women.

Accident Death Toll in 1981

Accidents caused an estimated 100,500 deaths in the United States in 1981, about 4,500 fewer than in the previous year. The provisional mortality rate from accidents in 1981 was 43.8 per 100,000 population, about 5 percent below the fatality rate of 46.2 in 1980. This estimated death rate for 1981 is the lowest on record.

The dramatic reduction in mortality from accidents last year was due in large part to a sharp drop in fatalities from motor vehicle accidents. Such fatalities decreased by about 2,000—to an estimated 50,500—the lowest number of deaths from motor vehicle accidents since 1977. Traffic safety specialists attribute some of the reduction to a decline in travel during the past year because of the economic recession. Preliminary data indicate that the death rate per 100 million miles traveled decreased to 3.3 in 1981.

There was significant improvement in mortality from injuries in and about the home; the number of deaths decreased by 1,500, to a low of 21,500 in 1981. (The declining trend in fatal home accidents was interrupted in 1980 by the large number of heat-related deaths resulting from the severe and prolonged heat wave during the summer of that year.) Public accidents, other than those involving motor vehicles, accounted for 20,000 deaths in 1981, about 1,000 fewer than were recorded in

the previous year. Job-related fatalities declined slightly to 12,700; about 4,200 of these deaths are included in the estimated 50,500 fatalities from motor vehicle accidents in 1981.

According to records maintained by the Statistical Bureau of the Metropolitan Life Insurance Company, more than 700 persons in the United States lost their lives in catastrophes (accidents taking five or more lives) in 1981. The death toll was slightly higher than that in 1980. The number of deaths from motor vehicle catastrophes remained virtually unchanged, but there was a significant decline in fatalities from catastrophic fires, water transportation accidents, and cataclysms (tornadoes, floods, severe snowstorms, etc.). On the other hand, deaths from catastrophes in civil aviation, military aviation, and mines and quarries increased, as did deaths from catastrophes involving building failure. Although deaths from cataclysms declined, such fatalities still accounted for about one fourth of all catastrophic deaths in 1981. Fires and accidents involving building collapse were each responsible for about one fifth of the catastrophic deaths, while one eighth were attributed to civil aviation accidents, and less than one tenth to motor vehicle accidents.

There were three major catastrophes in 1981; in the aggregate, they resulted in 178 deaths. The worst disaster of the year occurred on July 17, in Kansas City, Mo., when a massive fourth-floor walkway that stretched across the atrium of a modern hotel suddenly folded in the middle and collapsed, plunging down onto an identical walkway two floors below which also collapsed. The fall of both aerial walkways, which were filled with dancers and spectators, showered tons of steel and concrete into a crowded ballroom where a weekly tea dance was under way. As a result, 114 persons lost their lives—a death toll far greater than that in any other building failure in the United States. Engineering and architectural experts have cited several possible causes for the collapse. In the first official accounting, the National Bureau of Standards, after an intense six-month investigation, ruled out the quality of workmanship or materials as deficiencies causing the collapse. Also ruled out as a significant cause were the vibrations set up by the rhythmic movement of the dancers on the walkways. The Bureau indicated that a change in the design of the walkways was crucial in causing their collapse. The walkways were originally designed to hang directly from the ceiling by suspension rods, thus permitting the structure of the building to support the weight of both walkways. With the design change, the second-floor walkway was hung directly from the fourth-floor walkway, not from the ceiling, effectively doubling the load on the upper walkway. The report also stated that the maximum load that each of the suspension rods was capable of supporting did not meet the requirements of the Kansas City, Mo., building code. Another study by experts of the International Conference of Building Officials disclosed a number of deficiencies in the inspection procedures in effect when the hotel disaster occurred. The study found that the Kansas City Codes Administration Division was not required to review all design changes and was too understaffed to provide adequate inspections. Recommendations have been made to overcome these deficiencies.

On October 26, a home-made 30-foot boat, overloaded with illegal aliens trying to reach the United States, struck a reef and split apart in choppy waters less than a mile from Hillsboro Beach, Fla. Some of the passengers were able to swim to shore but 33 persons drowned. The catastrophe occurred just before dawn; by midday the 33 bodies—19 men and 14 women—had been washed ashore.

The third disaster of the year occurred in Keansburg, N.J., on January 9, when a roaring fire destroyed a building licensed as an intermediate care facility, a type of nursing home for infirm elderly residents. The disaster, which occurred in the early morning hours under freezing weather conditions, killed 31 persons. The majority of the victims died of smoke inhalation and carbon monoxide poisoning. The fire is believed to have started on the first floor in a recreation room near the front of the building but the cause has not yet been determined. Fires in converted boarding homes housing elderly people have occurred so frequently in recent years that safety standards in homes of this type are being examined and are subject to revision.

MAJOR CATASTROPHES IN THE UNITED STATES, 1977-81

Accidents Taking 25 or More Lives

Date	Place	Type of Accident	Number of Lives Lost
		1981	
July 17	Kansas City, Mo.	Collapse of two aerial walkways in hotel	114
October 26	Off Hillsboro Beach, Fla.	Sinking of boat	33
January 9	Keansburg, N.J.	Fire in rest home for aged	31
		1980	
November 21	Las Vegas, Nev.	Fire in hotel	85
May 18	Mount St. Helens, Wash.	Volcanic eruption	60
May 9	Tampa Bay, Fla.	Collision of ship with bridge during rainstorm	35
February 13-21	Southern California	Rain, floods, and subsequent mud slides	30
		1979	
May 25	O'Hare Airport, Chicago, Ill.	Crash of scheduled plane	273
April 10	Wichita Falls, Texas	Tornado	42
November 1	Gulf of Mexico Off Galveston, Texas	Collision of tanker and freignter	32
April 2	Farmington, Mo.	Fire in retirement home	25
		1978	
September 25	San Diego, Calif.	Collision of scheduled and private planes	144
January 25-27	Midwest	Blizzard	80
April 27	Willow Island, W.Va.	Collapse of scaffolding inside cooling tower of power plant under construction	51
February 5-7	Northeast	Severe snowstorm	50
August 2-3	Texas	Floods	27
		1977	
May 28	Southgate, Ky.	Fire in night club	165
July 20	Johnstown, Pa.	Floods	80
April 4	New Hope, Ga.	Crash of scheduled plane	71
January 27-February 1	Buffalo, N.Y., and Illinois, Indiana, Michigan, Ohio	Blizzard	51
November 6	Toccoa, Ga.	Collapse of earthen dam	39
December 22	Westwego, La.	Explosion of grain elevator	36
December 13	Evansville, Ind.	Crash of chartered plane	29
September 12-13	Kansas City, Mo.	Flash floods	26

Note: Figures for natural disasters are approximate.

Regional Variations in Mortality from Diabetes

Diabetes mellitus, ranked seventh among the leading causes of death in the United States, accounted for about 14.9 deaths per 100,000 population in 1981. About 34,000 deaths, or 1.7 percent of all deaths in the nation, were ascribed to diabetes as the principal cause of death. As an associated or contributory cause, however, diabetes is believed to be responsible for a considerable proportion of deaths among diabetics that are attributed to other diseases, particularly those of the cardiovascular-renal system.

Diabetes occurs throughout the world but is more frequent in industrialized countries, among older populations, and generally in more affluent societies. In the past the disease has been characterized by a greater prevalence and higher mortality among women than among men and, in the United States, by considerable variation in mortality from one area of the country to another. In recent years, however, there has been a significant change in the pattern of mortality from diabetes in the United States. The sex differential in mortality has been reversed; currently death rates from diabetes are lower among females than among males. The substantial regional differences in mortality from diabetes have lessened, although the death rates for both males and females remain highest in the East North Central States and lowest in the Pacific States.

A comparison of the mortality from diabetes among whites* in different areas of the United States in 1959-61, 1969-71, and 1975 is presented in Tables 1 and 2. Detailed death rates for the white population by state and geographic division are shown for males and females in 10-year age groups in the age range 45-74; also shown are age-adjusted death rates for ages 45-74 combined. Because rates based on small numbers of deaths are difficult to evaluate, no death rates are shown for states with fewer than 20 deaths. In 1975, mortality from diabetes among white males aged 45-74, averaged 27 per 100,000 population for the nation as a whole, compared with 32 per 100,000 in 1969-71, and 29 per 100,000 a decade earlier. Among white females the corresponding death rates were 24 per 100,000 in 1975, 31 per 100,000 in 1969-71, and 36 per 100,000 in 1959-61. During the period under review, the sex differential in mortality reversed from a 7 per 100,000 advantage in favor of white males in 1959-61 to a 1 per 100,000 advantage in favor of females in 1969-71, which widened to 3 per 100,000 by 1975.

In 1975 the highest mortality from diabetes among white men aged 45-74 (33 deaths per 100,000 population) was recorded in the East North Central States. As shown in Table 1, the states in this geographic division also experienced the highest mortality in 1969-71 and 1959-61. On the other hand, the lowest death rates from diabetes among males were registered in the Pacific States—20 per 100,000 population in 1975, 25 per 100,000 in 1969-71, and 19 per 100,000 in 1959-61.

The mortality pattern was similar for white women aged 45-74. As shown in Table 2, in 1959-61 the highest death rate from diabetes among women (46 per 100,000 population) was recorded in the East North Central and Middle Atlantic States; this rate was substantially higher than the comparable rates for white men in these areas. By 1969-71, the mortality rates among white females had declined to 38 per 100,000 in the East North Central States and to 35 per 100,000 in the Middle Atlantic division—the same rates experienced by males in these states. Although white females in these geographic divisions of the nation were still

*Sufficient data are not available to complete such an analysis for persons of other races.

TABLE 1—REGIONAL TREND IN MORTALITY FROM DIABETES
White Males Aged 45-74
United States, 1959-61, 1969-71, and 1975

Death Rate per 100,000

Area	1959-61				1969-71				1975			
	Ages 45-74*	Ages 45-54	Ages 55-64	Ages 65-74	Ages 45-74*	Ages 45-54	Ages 55-64	Ages 65-74	Ages 45-74*	Ages 45-54	Ages 55-64	Ages 65-74
United States	29	11	30	73	32	11	32	81	27	10	27	69
New England	33	12	33	83	34	14	33	88	30	9	32	78
Maine	28	†	25	77	29	†	28	73	33	†	†	87
New Hampshire	39	†	36	92	36	†	31	106	44	†	†	118
Vermont	21	†	†	60	36	†	†	92	†	†	†	†
Massachusetts	32	12	33	77	35	14	34	86	30	10	30	79
Rhode Island	44	†	40	135	44	18	42	109	31	†	†	†
Connecticut	33	11	35	82	32	12	30	82	25	†	29	69
Middle Atlantic	33	12	34	84	35	12	35	88	28	10	29	69
New York	31	11	31	80	33	13	33	85	29	11	31	69
New Jersey	35	12	33	92	35	11	37	91	27	10	25	72
Pennsylvania	36	13	40	87	37	13	38	91	26	9	28	67
East North Central	35	12	36	89	38	13	38	100	33	11	33	85
Ohio	41	14	41	106	41	13	40	110	39	12	40	103
Indiana	35	12	37	88	37	12	37	99	29	9	32	71
Illinois	26	10	26	61	31	12	33	74	27	10	25	70
Michigan	44	12	44	119	48	16	45	130	36	12	38	93
Wisconsin	31	12	33	73	36	13	36	92	30	11	25	84
West North Central	26	10	27	65	29	10	28	75	25	8	23	69
Minnesota	27	13	25	61	28	12	24	70	22	†	22	54
Iowa	26	11	24	63	27	11	27	65	27	†	24	72
Missouri	27	9	31	65	32	9	34	85	28	†	26	84
North Dakota	22	†	†	55	24	†	†	85	†	†	†	†
South Dakota	24	†	22	59	29	†	26	71	†	†	†	†
Nebraska	30	11	26	83	32	13	29	83	23	†	†	51
Kansas	25	†	27	67	26	9	26	68	28	†	22	88
South Atlantic	26	10	28	63	30	11	32	75	27	10	28	65
Delaware	46	†	55	99	45	†	†	132	47	†	†	†
Maryland	35	9	36	96	39	10	38	112	35	11	41	82
District of Columbia	23	†	†	†	37	†	†	†	†	†	†	†
Virginia	22	9	21	56	24	8	25	61	20	†	20	54
West Virginia	23	12	24	51	24	9	26	59	25	†	24	56
North Carolina	28	12	29	66	34	13	34	85	31	9	30	83
South Carolina	31	11	34	72	43	14	45	113	40	20	37	93
Georgia	27	11	27	64	34	13	35	83	28	†	29	70
Florida	23	9	24	56	26	9	29	60	23	9	23	55
East South Central	23	10	21	57	29	10	30	74	28	12	29	63
Kentucky	24	11	19	62	33	11	38	82	30	14	33	66
Tennessee	22	11	23	49	25	10	25	59	26	13	28	54
Alabama	23	7	22	63	29	8	28	79	29	†	35	68
Mississippi	21	†	20	53	30	13	25	79	24	†	†	70
West South Central	26	10	25	69	29	11	29	72	25	9	24	67
Arkansas	22	†	21	59	25	12	21	62	24	†	†	57
Louisiana	33	9	27	101	39	14	38	101	37	14	38	88
Oklahoma	25	11	23	60	28	10	26	73	19	†	22	37
Texas	26	10	26	66	28	11	29	67	25	8	21	74
Mountain	22	8	23	56	26	10	24	70	24	10	22	59
Montana	26	†	30	69	29	†	32	70	22	†	†	†
Idaho	20	†	†	62	27	†	24	69	20	†	†	†
Wyoming	23	†	†	†	20	†	†	†	†	†	†	†
Colorado	19	7	19	48	19	†	17	54	25	†	†	72
New Mexico	26	†	†	77	31	18	25	72	34	†	†	†
Arizona	18	†	21	46	28	13	24	71	18	†	†	42
Utah	23	†	24	59	34	†	31	93	25	†	†	†
Nevada	31	†	†	†	32	†	†	98	33	†	†	†
Pacific	19	7	21	47	25	9	24	65	20	7	18	53
Washington	25	11	25	58	30	13	28	77	24	†	27	56
Oregon	18	8	17	45	23	7	24	58	19	†	23	46
California	18	6	20	45	24	8	24	63	19	7	16	54
Alaska	†	†	†	†	†	†	†	†	†	†	†	†
Hawaii	†	†	†	†	32	†	†	†	†	†	†	†

*Adjusted on the basis of age distribution of the United States total population, 1940.

†Fewer than 20 deaths, rate not computed.

Source of basic data: Deaths from Division of Vital Statistics, National Center for Health Statistics—rates computed in the Statistical Bureau of the Metropolitan Life Insurance Company.

TABLE 2—REGIONAL TREND IN MORTALITY FROM DIABETES
White Females Aged 45-74
United States, 1959-61, 1969-71, and 1975

Death Rate per 100,000

Area	1959-61				1969-71				1975			
	Ages 45-74*	Ages 45-54	Ages 55-64	Ages 65-74	Ages 45-74*	Ages 45-54	Ages 55-64	Ages 65-74	Ages 45-74*	Ages 45-54	Ages 55-64	Ages 65-74
United States	36	9	36	104	31	9	30	88	24	7	23	68
New England	39	8	39	114	32	9	31	90	24	8	20	71
Maine	36	†	35	101	35	†	33	95	25	†	†	59
New Hampshire	41	†	51	109	42	18	52	87	36	†	†	117
Vermont	36	†	37	100	28	†	34	50	28	†	†	†
Massachusetts	34	7	33	101	31	8	30	87	25	9	19	76
Rhode Island	62	15	59	183	47	11	35	153	26	†	†	92
Connecticut	43	9	42	128	28	7	27	79	17	†	19	45
Middle Atlantic	46	10	47	133	35	10	32	103	26	7	25	76
New York	37	8	37	108	31	9	28	90	24	6	24	67
New Jersey	51	10	53	148	36	9	32	107	27	7	25	81
Pennsylvania	58	13	59	165	42	11	39	122	29	7	26	87
East North Central	46	11	46	133	38	11	34	109	29	8	28	83
Ohio	54	12	54	155	42	12	38	121	32	8	31	93
Indiana	45	12	47	124	39	11	37	108	31	10	31	84
Illinois	34	9	32	99	31	11	28	84	24	6	23	71
Michigan	59	13	59	172	45	12	35	142	34	10	33	96
Wisconsin	42	10	43	118	33	9	31	91	23	†	22	68
West North Central	30	7	29	90	30	9	29	81	23	7	21	64
Minnesota	32	6	30	96	25	8	22	69	18	†	15	46
Iowa	29	9	27	80	29	9	25	83	25	†	26	67
Missouri	31	6	31	92	36	11	37	93	24	†	23	69
North Dakota	28	†	29	84	28	†	30	85	†	†	†	†
South Dakota	23	†	†	80	26	†	33	55	17	†	†	†
Nebraska	32	†	27	97	27	9	24	73	27	†	†	77
Kansas	31	8	30	89	30	9	28	86	26	†	32	74
South Atlantic	28	7	29	76	27	8	27	72	21	7	20	56
Delaware	61	†	60	183	58	†	61	165	†	†	†	†
Maryland	49	9	52	140	41	10	36	123	27	†	21	88
District of Columbia	14	†	†	43	21	†	†	48	†	†	†	†
Virginia	25	7	24	70	22	6	21	65	22	†	24	55
West Virginia	36	9	39	98	37	13	39	90	31	†	31	86
North Carolina	25	5	24	74	29	8	29	77	22	†	21	59
South Carolina	28	†	29	77	36	10	35	101	29	†	25	83
Georgia	22	7	26	53	28	10	29	70	24	†	21	64
Florida	22	8	23	53	18	6	19	47	14	†	14	38
East South Central	28	7	26	79	30	8	30	83	26	9	26	69
Kentucky	36	10	33	106	35	9	36	98	34	12	32	89
Tennessee	22	7	22	61	27	8	28	74	21	†	20	61
Alabama	25	7	25	68	29	6	27	87	26	†	30	65
Mississippi	24	†	21	80	27	10	27	69	23	†	†	51
West South Central	31	8	31	86	32	10	31	86	27	8	29	71
Arkansas	24	†	19	72	27	†	29	78	32	†	35	73
Louisiana	43	10	44	122	40	12	40	109	31	†	26	89
Oklahoma	26	6	28	70	24	7	22	67	19	†	25	46
Texas	30	8	30	85	33	11	32	88	27	8	29	73
Mountain	28	7	27	79	27	7	26	75	21	8	20	55
Montana	30	†	29	93	21	†	†	62	†	†	†	†
Idaho	35	†	31	107	29	†	28	82	21	†	†	†
Wyoming	27	†	†	86	23	†	†	†	†	†	†	†
Colorado	23	8	21	63	24	7	21	72	25	†	23	62
New Mexico	30	†	32	76	37	†	42	98	22	†	†	†
Arizona	27	†	30	70	21	†	27	50	15	†	†	40
Utah	30	†	26	94	33	†	29	111	24	†	†	77
Nevada	28	†	†	†	33	†	†	116	†	†	†	†
Pacific	23	7	23	62	23	7	22	62	18	6	17	50
Washington	30	7	30	86	28	10	25	75	24	†	19	74
Oregon	28	8	27	75	22	7	23	56	21	†	†	63
California	21	7	21	55	22	6	21	60	17	6	17	44
Alaska	†	†	†	†	†	†	†	†	†	†	†	†
Hawaii	72	†	†	†	38	†	†	†	†	†	†	†

*Adjusted on the basis of age distribution of the United States total population, 1940.

†Fewer than 20 deaths; rate not computed.

Source of basic data: Deaths from Division of Vital Statistics, National Center for Health Statistics—rates computed in the Statistical Bureau of the Metropolitan Life Insurance Company.

subject to the highest mortality in 1975, their experience was more favorable than that among white males. White females residing in the Pacific States have consistently registered the most favorable mortality in the period under review. Since 1969-71, they have enjoyed a slight advantage in mortality over white males in the Pacific States.

Among males at ages 45-74 combined, the age-adjusted death rates from diabetes in 1975 ranged from a high of 47 per 100,000 in Delaware to a low of 18 per 100,000 in Arizona. In Delaware and in seven other states (New Hampshire, South Carolina, Ohio, Louisiana, Michigan, Maryland, and New Mexico) death rates from diabetes were at least 25 percent above the national average. On the other hand, death rates at least 25 percent below that for the nation as a whole were recorded in Arizona, Oregon, California, Oklahoma, Idaho, and Virginia. Among women the death rate at these ages was highest (36 per 100,000) in New Hampshire. Other states where death rates exceeded the national average by 25 percent or more included Michigan, Kentucky, Ohio, Arkansas, Indiana, West Virginia, and Louisiana. The lowest mortality among women (14 per 100,000 population) was recorded in Florida. Death rates that fell 25 percent or more below the national average were also reported in Arizona, Connecticut, South Dakota, California, and Minnesota.

For the most part, states with high mortality rates from diabetes in 1975 also reported high mortality during 1969-71 and 1959-61. During these periods mortality among white males was substantially above the national average in Delaware, Michigan, Rhode Island, and Ohio. The lowest rates in the earlier years were generally recorded in Colorado, Wyoming, Oregon, California, North Dakota, Virginia, and West Virginia. Among women this pattern was not quite so pronounced.

Mortality from diabetes rises sharply with advance in age and is heavily concentrated at the older ages. For the age groups here considered, diabetes death rates among white males in 1975 more than doubled with each 10-year advance in age, and the rate at ages 65-74 was about seven times that at ages 45-54. The pattern was essentially the same among women but the progression was more pronounced. At the younger ages the death rates from diabetes for both men and women were relatively low in 1975; more than three fifths of the states reported fewer than 20 deaths in this age group. However, at ages 55-64 mortality from diabetes reached a much higher level, while the highest death rates occurred at ages 65-74.

At ages 65-74 the highest death rate from diabetes among white males in 1975 was recorded in the East North Central States—85 per 100,000—followed by a rate of 78 per 100,000 in New England. The lowest rate was recorded in the Pacific States—53 per 100,000. Death rates ranged from 37 per 100,000 in Oklahoma and 42 per 100,000 in Arizona to 103 per 100,000 in Ohio and 118 per 100,000 in New Hampshire. Among white women aged 65-74, mortality from diabetes was lowest in the Pacific States—50 per 100,000—and highest in the East North Central States—83 per 100,000. The death rates by state varied from 38 per 100,000 in Florida to 117 per 100,000 in New Hampshire.

The geographic variations in mortality from diabetes may be partially explained by differences in diagnostic and coding practices and also by the quality of medical care. Mortality from diabetes is considerably higher among those with Type I or insulin-dependent diabetes (formerly called juvenile-onset diabetes) than it is among those with Type II or noninsulin-dependent diabetes (formerly called maturity-onset diabetes). Type II diabetes generally follows a milder course. Complications of the disease occur, however, among all diabetics and the possibility of developing problems increases with duration of the disease.

Important advances in the treatment of diabetes and its complications in the last half century have resulted in a marked prolongation of life among diabetics and a change in the causes of death among them. Deaths from diabetic coma, insulin shock, and diabetic gangrene are now relatively rare, and have been replaced by much the same causes of death as occur in the general population. Diabetics are prone to many cardiovascular-renal complications, and the preponderance of deaths among them are now attributed to such disorders.

Accidents Among Women

Accidents are responsible for a large proportion of the deaths among women. In the United States about 16,000 women aged 15-64 die each year from accidental injuries. Only cancer and heart disease take more lives among women in this broad age range.

The chart on page 13 shows the relative importance of accidents compared with other causes of death among women. Accidents overshadow all other causes of death among young women aged 15-24. At ages 15-19, accidents claim more lives than all other causes combined, and about six times the number of lives lost from homicide, the next leading cause of death. At ages 20-24, the mortality from accidents is more than three times that from homicide, the second leading cause of death in this age group. Accidents continue to be the principal cause of death among women aged 25-34. Only at ages 35-44 does the relative importance of accidents drop below that of other major causes of death. This shift reflects the sharp rise with advancing age in mortality from cancer and heart disease, rather than a decline in mortality from accidents. Although they rank third at ages 35-44 and fifth at ages 45-54 and 55-64, accidents are still responsible for 7,500 deaths annually among women in the 35-64 age group.

Table 1 presents a comparison of the mortality from accidents among women in the United States by age and race for the years 1970-71 and 1977-78, with a further breakdown for motor vehicle accidents and all other types of accidents combined. Among white women aged 15-64, the overall death rate from accidents (adjusted for changes in the age distribution of the population) decreased from 24.4 per 100,000 in 1970-71 to 21.6 in 1977-78, or by 12 percent. Death rates among white women aged 45-64 decreased by almost one fourth; at ages 15-24, however, the rates increased slightly. During the same period the age-adjusted death rate from all accidents among nonwhite women aged 15-64 declined by 26.1 percent, from 32.6 per 100,000 in 1970-71 to 24.1 in 1977-78. The greatest reductions in mortality were recorded at ages 25-44 (about one third) and the smallest at ages 55-64 (about one tenth).

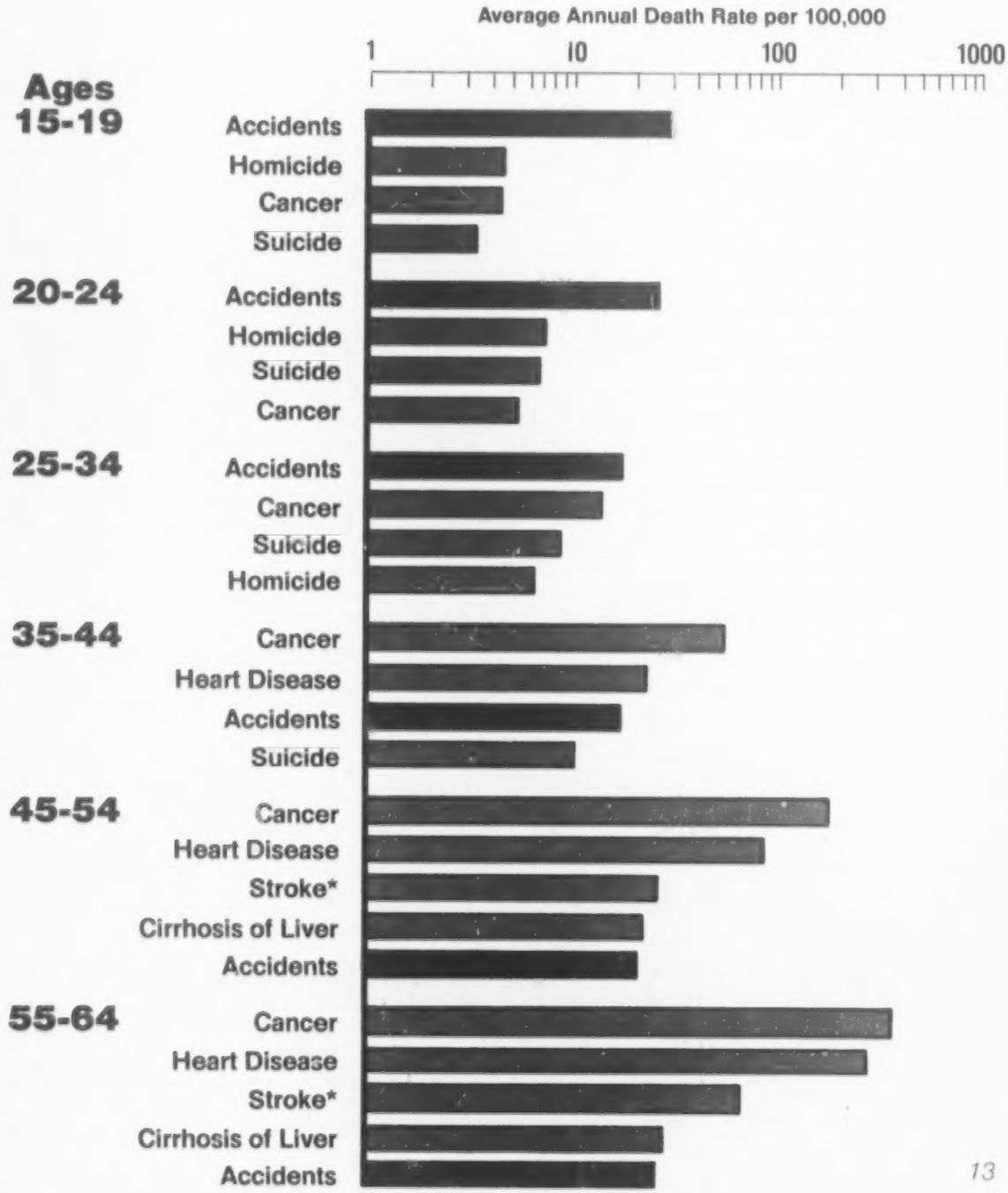
In 1977-78 the mortality from accidents among nonwhite women was lower than that for white women at ages 15-24, but higher at ages 25-64; only at ages past 54 was the ratio of nonwhite to white mortality as much as 1½ to 1. The age profile of mortality from accidents among white women also differed from that among nonwhite women. Accident death rates among white women were highest at ages 15-19 (31.3 per 100,000), decreased to a low of 16.7 at ages 35-44, and increased thereafter to 25.6 at ages 55-64. Among nonwhites, however, death rates generally followed an upward trend, rising from 17.7 per 100,000 at ages 15-19 to 38.5 at ages 55-64.

Each year motor vehicle accidents are responsible for a particularly high proportion of all accidental deaths among young women. The proportion decreases steadily with advance in age, from about five sixths at ages 15-19 to less than half at ages 55-64 among white women and from two thirds to one third among nonwhite women.

Between 1970-71 and 1977-78, the mortality from motor vehicle accidents decreased by one tenth among white women in the age range 15-64 and by one third among nonwhite women at these ages. Death rates among white women rose slightly at ages 15-24 but decreased for all other age groups, with the greatest improvement—

LEADING CAUSES OF DEATH AMONG WOMEN

United States, 1977-78



*Cerebrovascular disease.

Source of basic data: Reports of Division of Vital Statistics, National Center for Health Statistics.

TABLE 1—MORTALITY FROM ACCIDENTS AMONG WOMEN AGED 15-64

United States, 1970-71 and 1977-78

Age Group	Accidents—Total: Death Rate per 100,000 1970-71	Accidents—Total: Death Rate per 100,000 1977-78	Accidents—Total: Percent Change	Motor Vehicle Accidents: Death Rate per 100,000 1970-71	Motor Vehicle Accidents: Death Rate per 100,000 1977-78	Motor Vehicle Accidents: Percent Change	All Other Accidents: Death Rate per 100,000 1970-71	All Other Accidents: Death Rate per 100,000 1977-78	All Other Accidents: Percent Change
White									
15-64*	24.4	21.6	−11.5	15.7	14.0	−10.8	8.7	7.7	−11.5
15-19	29.7	31.3	5.4	24.5	25.9	5.7	5.2	5.4	3.8
20-24	25.5	26.5	3.9	20.2	20.6	2.0	5.3	5.9	11.3
25-34	18.9	17.1	− 9.5	12.8	11.7	− 8.6	6.1	5.4	−11.5
35-44	20.4	16.7	−18.1	12.2	9.6	−21.3	8.2	7.1	−13.4
45-54	25.7	19.6	−23.7	13.6	9.6	−29.4	12.1	10.0	−17.4
55-64	33.2	25.6	−22.9	15.9	11.2	−29.6	17.3	14.4	−16.8
Nonwhite									
15-64*	32.6	24.1	−26.1	16.4	11.3	−31.1	16.2	12.8	−21.0
15-19	23.9	17.7	−25.9	13.5	11.2	−17.0	10.4	6.5	−37.5
20-24	30.5	22.6	−25.9	18.6	13.6	−26.9	11.9	9.0	−24.4
25-34	29.6	20.3	−31.4	16.1	10.9	−32.3	13.5	9.4	−30.4
35-44	33.7	22.3	−33.8	16.8	10.1	−39.9	16.9	12.2	−27.8
45-54	36.8	27.7	−24.7	17.1	10.4	−39.2	19.7	17.3	−12.2
55-64	42.9	38.5	−10.3	16.5	13.0	−21.2	26.4	25.5	− 3.4

*Adjusted on basis of age distribution of the United States total population, 1940

Source of basic data: Reports of the Division of Vital Statistics, National Center for Health Statistics

TABLE 2—MORTALITY FROM ACCIDENTS AMONG WOMEN AGED 15-64

Metropolitan Life Insurance Company Standard Ordinary Policyholders 1970-71 and 1977-78

Age Group	Accidents—Total: Death Rate per 100,000 1970-71	Accidents—Total: Death Rate per 100,000 1977-78	Accidents—Total: Percent Change	Motor Vehicle Accidents: Death Rate per 100,000 1970-71	Motor Vehicle Accidents: Death Rate per 100,000 1977-78	Motor Vehicle Accidents: Percent Change	All Other Accidents: Death Rate per 100,000 1970-71	All Other Accidents: Death Rate per 100,000 1977-78	All Other Accidents: Percent Change
15-64*	16.2	15.6	− 3.7	10.1	9.7	− 4.0	6.1	5.9	− 3.3
15-19	26.2	33.9	29.4	19.2	24.4	27.0	7.0	9.5	35.7
20-24	18.4	24.1	31.0	12.9	16.0	24.0	5.5	8.1	47.3
25-34	11.8	9.3	−21.2	7.7	6.5	−15.6	4.1	2.8	−31.7
35-44	11.3	9.3	−17.7	6.3	5.4	−14.3	5.0	3.9	−22.0
45-54	14.4	9.6	−33.3	7.7	4.4	−42.9	6.7	5.2	−22.4
55-64	22.4	17.6	−21.4	11.5	7.6	−33.9	10.9	10.0	− 8.3

*Adjusted on basis of age distribution of the United States total population, 1940.

about 30 percent—recorded at ages 45-64. Sizable decreases were recorded among nonwhite women in every age group, from 17 percent at ages 15-19 to a high of almost 40 percent at ages 35-44 and 45-54. During the same period mortality from accidents other than those involving motor vehicles decreased by slightly more than a tenth among white women in the age range 15-64. Although death rates increased at the younger ages—by 4 percent at ages 15-19 and by 11 percent at ages 20-24—decreases varying from 12 to 17 percent were registered at ages 25-64. Among nonwhite women aged 15-64, mortality from accidents other than those involving motor vehicles decreased by 21 percent, with the greatest reduction (38 percent) recorded at ages 15-19 and the smallest (3 percent) at ages 55-64.

Death rates from motor vehicle accidents in 1977-78 were lower among nonwhite women than among white women at ages 15-34, but were slightly higher for nonwhite women at ages past 34. In contrast, death rates from all other types of accidents were higher among nonwhites than among whites in every age group.

Among white women death rates from motor vehicle accidents in 1977-78 were highest at ages 15-19 (25.9 per 100,000), while the highest mortality among nonwhite women was recorded at ages 20-24 (13.6 per 100,000) and at ages 55-64 (13.0). Mortality from all other types of accidents, on the other hand, generally increased with advance in age for all women, rising from 5.4 to 14.4 per 100,000 among white women and from 6.5 to 25.5 per 100,000 among nonwhite women.

Shown in Table 2 are death rates from accidents among women insured under Standard Ordinary policies of the Metropolitan Life Insurance Company for the years 1970-71 and 1977-78. With few exceptions, death rates among these insured women were generally lower than the death rates among women in the general population. Such more favorable mortality among insured women can usually be attributed to the fact that these women were drawn chiefly from the urban middle class and had been in apparent good health at the time their life insurance policies were issued, while the women in the general population included a large proportion of persons at lower socioeconomic levels, as well as some in poor health. Between 1970-71 and 1977-78 death rates from accidents among insured women increased significantly at ages 15-24, in contrast to the slight increases recorded by white women and the substantial reductions among nonwhite women in the general population. Beyond age 24, mortality among the insured women decreased substantially, in much the same pattern as that among women in the general population.

Despite the declining trend in fatalities, accidents are still a leading cause of death among women. Of additional concern is the fact that accidents are also an important cause of disability among women. Data from the National Health Survey indicate that in 1980 more than 18 million women in the age range 17-64 (or one out of every four women in this age range) suffered injuries involving one or more days of restricted activity or requiring medical attention. Two out of five of these women sustained their injuries in the home.

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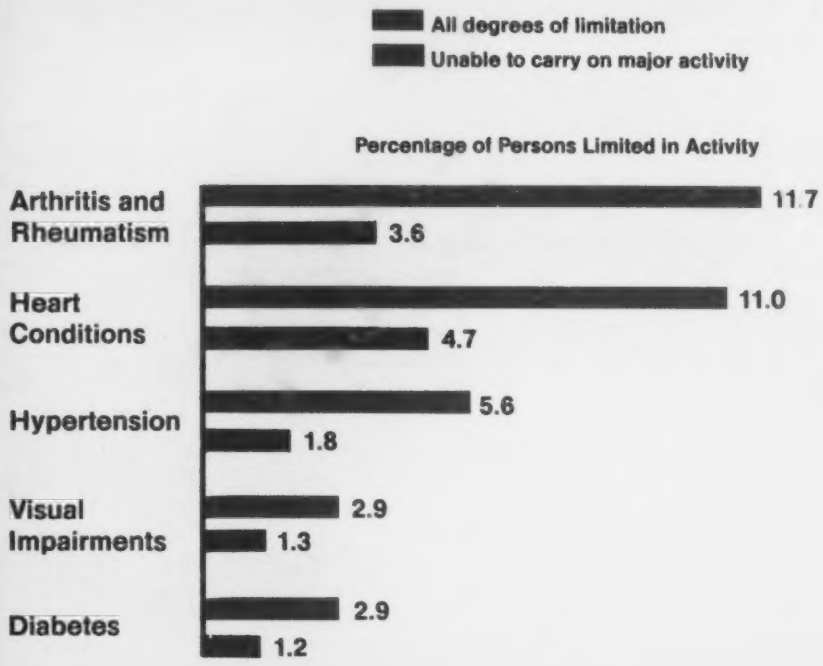
Leading Chronic Conditions Among The Elderly

Ages 65 and Over, United States, 1979



Note: Noninstitutionalized civilian population.

Source of basic data: National Center for Health Statistics.

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Apr-Jun 1982

Catastrophic Accidents—A 40-Year Review
Office Visits to Physicians
Mortality from Peptic Ulcers in the United States
Occupational Mortality in England and Wales
Population Growth in the United States and Canada

TABLE 1—CATASTROPHIC ACCIDENTS* AND DEATHS, BY TYPE OF ACCIDENT

United States, 1941-80

Type of Accident	1941-50		1951-60		1961-70		1971-80		1941-80	
	Accidents	Deaths	Accidents	Deaths	Accidents	Deaths	Accidents	Deaths	Accidents	Deaths
All Types†	1,050	13,251	1,483	13,790	1,340	12,530	924	10,090	4,797	49,661
Motor vehicle	292	1,985	666	4,037	561	3,553	220	1,465	1,739	11,040
Bus	59	539	32	264	31	313	17	192	139	1,308
Collision with railroad train	12	139	5	35	5	90	4	28	26	292
Other	47	400	27	229	26	223	13	164	113	1,016
Motor vehicle other than bus	233	1,446	634	3,773	530	3,240	203	1,273	1,600	9,732
Collision with railroad train	69	431	94	574	55	346	17	110	235	1,461
Other	164	1,015	540	3,199	475	2,894	186	1,163	1,365	8,271
Air transportation	88	1,371	112	2,133	176	2,868	178	2,456	554	8,828
Water transportation	89	1,012	82	719	45	416	31	437	247	2,584
Railroad‡	45	861	24	369	6	52	6	85	81	1,367
Fire and explosion	330	4,529	420	3,099	420	3,090	336	2,680	1,506	13,398
Dwellings, apartments	166	1,034	312	1,917	322	1,969	223	1,341	1,023	6,261
Hotels, boarding houses, rooming houses	36	515	24	175	25	243	33	386	118	1,319
Homes for aged, convalescent homes, hospitals, etc.	16	281	17	254	12	200	19	199	64	934
Places of amusement	5	679	2	26	3	99	4	202	14	1,006
Other	107	2,020	65	727	58	579	57	552	287	3,878
Tornadoes, floods, hurricanes, etc.	111	2,292	98	2,682	80	2,027	103	2,336	392	9,337
Mines and quarries	53	870	22	339	15	298	9	161	99	1,668
All other	42	331	59	412	37	226	41	470	179	1,439

*Accidents in which five or more persons are killed.

†Excludes military aviation accidents.

‡Collisions of railroad trains with motor vehicles are classified as motor vehicle accidents.

Source of basic data: News items in the daily press, reports of the National Weather Service, U.S. Bureau of Mines, and other sources. Data may be incomplete, particularly with regard to accidents taking five to nine lives.

Catastrophic Accidents—A 40-Year Review

During the past four decades, there have been about 4,800 catastrophes—accidents taking five or more lives—in the United States. Such accidents were responsible for nearly 50,000 deaths in the 1941-1980 period.

Since 1941, the Statistical Bureau of the Metropolitan Life Insurance Company has maintained a detailed and continuous record of catastrophic accidents (excluding those in military aviation). This information has been compiled from official and news sources. Table 1 on the opposite page presents a summary of the number and type of catastrophes and the death toll from such accidents in each decade between 1941 and 1980.

During the 40-year period, the number of catastrophes increased from 1,050 in 1941-50 to 1,483 in 1951-60, decreased to 1,340 in 1961-70, and then dropped to 924 in 1971-80. Fatalities followed a similar trend, with 13,251 deaths recorded in 1941-50, 13,790 in 1951-60, 12,530 in 1961-70, and 10,090 in 1971-80.

Fires and explosions took more lives than any other type of catastrophe during the period under review, accounting for about 13,400 fatalities, or more than a quarter of all deaths from catastrophes. Motor vehicle accidents ranked second, claiming more than 11,000 lives, slightly more than a fifth of all deaths from catastrophic accidents. Natural catastrophes (tornadoes, floods, hurricanes, etc.) caused an estimated 9,300 deaths, slightly less than a fifth of the total, while catastrophes in civil air transportation were responsible for more than 8,800 fatalities. All other types of catastrophes combined accounted for about a seventh of the total number of deaths.

Fatalities from catastrophic fires and explosions have been declining; there were 40 percent fewer deaths in 1971-80 than in 1941-50. Such catastrophes ranked first in number of fatalities in 1941-50 (with twice as many deaths as the next ranking type of catastrophe), but dropped to second place in the 1950s and 1960s. Although deaths from fires and explosions ranked first once again in the 1970s, fatalities (2,680) were only slightly higher than the deaths in air transportation, the next ranking type of catastrophe.

The number of deaths in catastrophic motor vehicle accidents increased from about 2,000 in 1941-50 to more than 4,000 in 1951-60, declined to about 3,500 in 1961-70, and fell below 1,500 in 1971-80. Motor vehicle accidents were responsible for more deaths than any other type of catastrophe during the 1950s and the 1960s, but dropped to fourth place in 1971-80.

Deaths resulting from tornadoes, floods, hurricanes, etc., have fluctuated from one decade to another. The death toll from such natural catastrophes was highest in the 1950s (about 2,700) and lowest in the 1960s (about 2,000). The number of deaths recorded in 1971-80 exceeded 2,300, ranking third among catastrophic fatalities.

Deaths from air transportation catastrophes rose from approximately 1,400 in 1941-50 to about 2,900 in 1961-70, but declined to below 2,500 in the 1971-80 period. Despite this decrease, fatalities in civil air transportation ranked second among deaths from catastrophes in 1971-80.

While fatalities in water transportation catastrophes have declined appreciably in the 40-year period, 437 lives were lost in such catastrophes in 1971-80, about two fifths of the number of deaths recorded in 1941-50. There has also been a marked reduction in the number of deaths attributed to catastrophes on railroads and in mines and quarries. Fatalities in railroad catastrophes decreased from 861 in 1941-50 to 85 in 1971-80, while the death toll from catastrophes in mines and quarries dropped from 870 to 161 during the same period.

It is estimated that more than half of the deaths in catastrophes during the past four decades occurred in accidents that took five to nine lives, while more than two thirds resulted from catastrophes in which fewer than 25 lives were lost. Accidents in which 100 or more people died accounted for 6,955 deaths, or 14 percent of all deaths in catastrophes during the 40-year period.

TABLE 2—DISASTERS RESULTING IN 100 OR MORE DEATHS

United States, 1941-80

Type of Accident	Place	Date	Number of Deaths
Fire and explosion	Texas City, Texas	April 16-17, 1947	561
Night club fire	Boston, Mass.	November 28, 1942	492
Hurricane and floods	Louisiana, Texas, and several other states	June 27-28, 1957	395
Explosion of two ammunition ships	Port Chicago, Calif.	July 18, 1944	322
Series of tornadoes	Midwest and South	April 3-4, 1974	307
Crash of scheduled plane	O'Hare Airport, Chicago, Ill.	May 25, 1979	273
Tornadoes	Midwest	April 11, 1965	272
Hurricane and subsequent floods	Mississippi, Louisiana, Virginia	August 17-20, 1969	256
Flash flood	Rapid City, S. D.	June 9, 1972	237
Series of tornadoes	Mississippi Valley States	March 21-22, 1952	229
Hurricane and floods	Northeastern United States	August 17-19, 1955	180
Circus fire	Hartford, Conn.	July 6, 1944	168
Tornado	Texas and Oklahoma	April 9, 1947	167
Night club fire	Southgate, Ky.	May 28, 1977	165
Tornado	Pennsylvania, West Virginia, Maryland	June 23, 1944	159
Flash flood	Big Thompson Canyon, Colo.	July 31, 1976	145
Midair collision of scheduled and private planes	San Diego, Calif.	September 25, 1978	144
Series of tornadoes	Michigan and Ohio	June 8, 1953	142
Destroyer explosion	New York Bay, N.Y.	January 3, 1944	138
Midair collision of two scheduled planes	Staten Island, N.Y.	December 16, 1960	134
Earthquake and tsunami	Alaska, California, Oregon	March 27, 1964	131
Gas tank explosion	Cleveland, Ohio	October 20, 1944	130
Midair collision of two scheduled planes	Over Grand Canyon, Ariz.	June 30, 1956	128
Collapse of dam made from mine wastes, flooding valley	Buffalo Creek, W. Va.	February 26, 1972	125
Tornadoes	Mississippi and Louisiana	February 21, 1971	121
Tornado	Oklahoma, Missouri, Arkansas	April 12, 1945	119
Hotel fire	Atlanta, Ga.	December 7, 1946	119
Coal mine explosion	West Frankfort, Ill.	December 21, 1951	119
Hurricane and subsequent floods	Eastern Seaboard	June 19-28, 1972	118
Series of tornadoes	Kansas, Oklahoma, Texas, Missouri	May 25, 1955	115
Tornado	Waco, Texas	May 11, 1953	114
Crash of scheduled plane	New York, N.Y.	June 24, 1975	113
Tornadoes	Southern and Midwestern States	March 17, 1942	111
Coal mine explosion	Centralia, Ill.	March 25, 1947	111
Crash of scheduled plane	Near Juneau, Alaska	September 4, 1971	111
Crash of scheduled plane	Near Miami, Fla.	December 29, 1972	101
Wind and snowstorm	Northeastern United States	November 25, 1950	100
Hurricane	Atlantic Coast and New England States	October 15, 1954	100

Note: Figures for natural disasters are approximate.

even though the number of such catastrophes (38) was less than 1 percent of the total. Such disasters declined from 13 in 1941-50 (in which 2,697 deaths occurred) to 10 in 1951-60 (causing 1,656 deaths), and to three in 1961-70 (claiming 642 lives). In the most recent decade, however, the number of major catastrophes rose to 12 and the fatalities to 1,960.

Listed in Table 2 above are the 38 catastrophes causing 100 or more deaths in the United States during the 40-year period under review. The worst disasters were the Texas City fire and explosion in 1947 (claiming 561 lives) and the fire in a Boston night club in 1942 (resulting in the death of 492 persons). Ranking next were the 1957 hurricane, Audrey, which caused about 395 fatalities in Louisiana, Texas, and several other states; the explosion of two ammunition ships in Port Chicago, Calif., in 1944, which killed 322; and the series of tornadoes that ripped through 11 states in the South and Midwest in the spring of 1974, causing 307 deaths in the United States and an additional eight deaths in the Canadian border city of Windsor. Of the next

ten disasters, each claiming more than 150 lives, seven were natural catastrophes. The other three were the 1979 airplane crash in O'Hare Airport, Chicago, Ill., (resulting in 273 deaths); the 1944 circus fire in Hartford, Conn., (where 168 persons died); and the 1977 night club fire in Southgate, Ky., (in which 165 lives were lost). Of the 38 major disasters, 20 were natural catastrophes, eight involved fires and explosions, seven were air transportation accidents, two were mine accidents, and one resulted from the collapse of a dam.

Since 1980, there have been two disasters in which the death toll exceeded 100. On July 17, 1981, the collapse of two aerial walkways in a hotel in Kansas City, Mo., caused 114 deaths. On July 9, 1982, 154 lives were lost in the crash of a scheduled airliner in Kenner, La., shortly after takeoff from the New Orleans International Airport.

Office Visits to Physicians

More than half a billion office visits are made to physicians each year in the United States—close to three visits for each man, woman, and child in the nation. Women are more likely than men to seek medical advice, and physical complaints or symptoms are responsible for a greater number of visits than any other reason. These are some of the findings of the National Ambulatory Medical Care Survey conducted over the two-year period 1977-78.

As shown in the table on page 6, the frequency of visits to physicians generally rose with advance in age for both sexes, although the pattern differed for the two groups. Among males under 15 years of age, 2,128 office visits per year per 1,000 population were recorded. The annual rate dropped to 1,545 per 1,000 among males at ages 15-24, and then rose steadily for each successive age group—reaching 3,913 visits per 1,000 population at ages 65 and over. Among females, the frequency of office visits increased uniformly throughout the age spectrum—from 2,056 per 1,000 population at ages under 15 to 4,299 per 1,000 at ages 65 and over. The average annual visit rate among females was higher than that among males in every age group but the youngest (ages under 15). At all ages combined, the frequency of office visits averaged 2,251 per 1,000 for males and 3,167 per 1,000 for females.

More than half of all visits to physicians in each sex and age classification were attributed to symptoms or complaints registered by the patients. The initial visit was usually prompted by specific symptoms to which the physician attached a tentative diagnosis based on medical history, physical examination, and/or laboratory tests. The second most frequent reason for visiting a physician was the need for diagnostic, screening, or preventive procedures (13 percent of all visits by males and 22 percent of all visits by females). All other reasons grouped together accounted for less than one fourth of all visits to physicians—27 percent of the visits by males and 20 percent of the visits by females.

Among men at all ages combined, symptoms referable to the respiratory system—mainly throat problems and cough—were reported more often than any other category of symptoms as the principal reasons for visiting a physician. Next in frequency were visits for musculoskeletal problems and for general symptoms. (General symptoms include those to which no body part or system can be assigned, e.g., bleeding or fatigue, or symptoms that manifest themselves in more than one body system.) Symptoms in these three categories were responsible for more than three tenths of all visits to physicians by men.

Among men at ages under 25, the most common complaints or symptoms were those referable to the respiratory system. The second most frequent symptoms among these men were those referable to the eyes and ears (at ages under 15)

OFFICE VISITS TO PHYSICIANS
United States, 1977-78

Principal Reason for Visit	Average Annual Rate of Office Visits per 1,000 Population					
	All Ages	Under Age 15	Ages 15-24	Ages 25-44	Ages 45-64	Ages 65 and Over
			Male			
All Visits*	2,250.5	2,128.3	1,544.9	1,890.5	2,799.5	3,912.7
All Symptoms	1,287.8	1,216.8	896.1	1,134.5	1,542.0	2,196.5
General symptoms	181.6	211.5	76.0	151.3	215.7	332.9
Symptoms referable to psychological and mental disorders	57.1	18.1	37.4	96.6	77.9	47.4
Symptoms referable to nervous system	65.1	29.1	35.7	65.8	92.1	166.2
Symptoms referable to eyes and ears	144.0	221.6	79.9	90.4	130.4	248.3
Symptoms referable to respiratory system	277.7	416.0	203.1	196.3	243.3	361.5
Symptoms referable to digestive system	102.0	85.6	58.8	92.5	128.1	208.3
Symptoms referable to genitourinary system	62.5	23.4	41.4	61.0	80.4	181.5
Symptoms referable to skin, nails, and hair	134.4	119.7	170.3	104.2	140.6	174.8
Symptoms referable to musculoskeletal system	249.4	83.6	186.1	271.8	406.3	433.3
All Diseases†	212.6	120.5	87.0	154.1	376.6	541.2
Diseases of circulatory system	54.7	‡	‡	40.0	131.8	171.4
All Diagnostic, Screening and Preventive Procedures	287.1	396.0	76.4	154.7	376.8	609.9
General examinations	153.0	328.8	38.1	58.5	137.7	211.3
Special examinations	38.0	16.6	18.1	17.8	61.4	145.8
Diagnostic tests	70.1	11.2	9.9	45.2	161.3	231.2
All Treatments	175.5	160.3	128.4	163.6	205.9	284.5
Medications	47.7	85.2	33.1	35.7	31.1	45.1
Preoperative and postoperative care	60.2	28.0	37.5	46.8	95.3	159.2
Other Reasons	211.9	184.3	317.2	221.1	179.8	115.6
Injuries and adverse effects	142.9	130.7	209.4	149.4	117.5	76.6
			Female			
All Visits*	3,166.8	2,055.5	2,787.1	3,442.4	3,729.4	4,298.8
All Symptoms	1,758.8	1,222.0	1,416.7	1,837.2	2,186.2	2,402.1
General symptoms	260.5	199.2	156.8	266.7	337.3	390.5
Symptoms referable to psychological and mental disorders	87.8	12.0	50.2	156.1	123.6	78.6
Symptoms referable to nervous system	109.2	22.4	51.0	107.0	171.3	246.2
Symptoms referable to eyes and ears	167.7	197.2	107.2	125.0	183.9	270.4
Symptoms referable to respiratory system	316.5	417.8	283.7	278.2	298.0	292.3
Symptoms referable to digestive system	156.5	107.2	126.8	165.3	189.4	220.6
Symptoms referable to genitourinary system	210.7	46.6	256.1	310.3	251.6	164.8
Symptoms referable to skin, nails, and hair	166.9	139.2	216.0	161.7	154.0	178.2
Symptoms referable to musculoskeletal system	264.1	71.0	151.1	253.7	447.9	511.5
All Diseases†	258.9	116.2	105.5	187.9	424.6	635.3
Diseases of circulatory system	60.8	‡	6.0	28.9	127.6	208.3
All Diagnostic, Screening and Preventive Procedures	697.9	430.9	895.3	900.3	554.1	708.4
General examinations	190.2	344.7	79.3	129.3	176.7	225.0
Special examinations	325.6	26.6	655.1	577.4	148.8	141.3
Diagnostic tests	123.9	16.7	57.9	109.1	207.8	316.7
All Treatments	230.7	112.9	162.6	310.4	307.7	253.2
Medications	55.3	46.8	33.3	60.5	76.2	58.5
Preoperative and postoperative care	89.0	26.9	62.3	117.4	131.8	112.7
Other Reasons	137.6	129.3	161.8	136.9	131.0	130.5
Injuries and adverse effects	86.8	85.5	78.7	83.5	95.5	94.8

*Including visits where the reason cannot be determined
†Excludes congenital anomalies and perinatal conditions
‡Figure does not meet standards of reliability or precision
Source of basic data: National Ambulatory Medical Care Survey

and those referable to the musculoskeletal system (at ages 15-24). The order was reversed at ages 25 and over—symptoms of the musculoskeletal system led, followed by those of the respiratory system. In the aggregate, men averaged 1.3 visits per year on account of a physical complaint or symptom, while the average for women was 1.8 visits.

Among women, the pattern of visits attributed to symptoms was similar to that among men. For women, the respiratory system was implicated more often than any other system, followed by the musculoskeletal system, and by general symptoms. Symptoms referable to the genitourinary system were also frequent reasons for consulting a physician. More than half of all office visits made by women because of physical symptoms were referable to one of the aforementioned body systems. Among women at ages under 25, symptoms referable to the respiratory system were the most frequent reason for visiting a physician. At ages 25-44, symptoms related to the genitourinary system predominated, while symptoms referable to the musculoskeletal system led at ages 45 and over.

Diagnostic, screening, and preventive procedures constituted the second most frequent reason for consulting physicians. Women visited their physicians for one of these procedures considerably more often than did men. In the aggregate, 698 visits per 1,000 population were recorded annually among women but only 287 such visits per 1,000 were registered for men. Among women, special examinations, particularly routine prenatal examinations, were most frequent at ages 15-44. At ages 15-24, nearly three quarters of all special examinations were prenatal examinations.

Diseases as a group accounted for less than 10 percent of all visits to physicians. An average annual visit rate of 213 per 1,000 population was recorded for men and 259 per 1,000 for women.

Relatively few visits were made to receive treatment, such as medication, preoperative or postoperative care, therapy, and counseling. An average annual visit rate of 176 per 1,000 for treatment was recorded among men and 231 per 1,000 among women. Preoperative or postoperative care was recorded most frequently, accounting for about a third of all visits for treatment.

Injuries and adverse effects were responsible for 143 visits per 1,000 among men and 87 per 1,000 among women. Visits to obtain the results of certain types of medical tests or for physical examinations required for employment or school purposes were among other reasons for consulting physicians.

Mortality from Peptic Ulcers in the United States

Since the early 1960s, mortality from peptic ulcers* in the United States has declined by about two thirds—from a rate of 6.6 deaths per 100,000 population in 1962 to 2.5 per 100,000 in 1978. There were 5,545 deaths from peptic ulcers in 1978, compared with 12,228 deaths in 1962. Hospitalization for this disease has also been decreasing. The reasons for the declining trend are obscure. It is not certain whether the decrease is due to a reduced incidence of peptic ulcers, a change in the severity of the disease, or other factors.

Based on data compiled in the National Health Survey of 1979, it is estimated that about 3.8 million persons in the United States suffer from peptic ulcers—an average of 18 persons per 1,000 population. Peptic ulcers are more prevalent at the older ages, with rates ranging from 12.0 cases per 1,000 persons among those under 45 years of age, to 29.7 per 1,000 among those in the 45-64 age group, and to 32.0 per 1,000 among those aged 65 or older. The findings of the survey also indicate that the prevalence of peptic ulcers among men is now lower than that among women, a reversal of the experience in previous years. The prevalence of ulcers among men declined from 22.0 cases per 1,000 population in 1968 to

*Includes ulcers of the stomach, ulcers of the duodenum, and peptic ulcers, site unspecified.

MORTALITY FROM PEPTIC ULCERS

United States General Population, 1968 and 1978
Metropolitan Life Insurance Company Standard Ordinary Policyholders, 1969 and 1979

Age	United States General Population						Metropolitan Standard Ordinary Policyholders					
	Death Rate per 100,000						Death Rate per 100,000					
	1968		1978		Percent Decrease		1969		1979		Percent Decrease	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All Peptic Ulcers												
All Ages*	5.8	2.1	2.5	1.2	57	43	4.1	1.6	1.4	0.9	66	44
35-44	2.4	1.0	.9	.4	63	60	†	†	†	†	†	†
45-54	6.8	2.4	2.5	1.1	63	54	3.8	†	†	†	†	†
55-64	17.1	5.3	6.4	2.5	63	53	12.3	†	3.4	†	72	†
65-74	36.0	11.3	13.9	6.4	61	43	26.0	12.1	8.6	†	67	†
75 and over	64.3	29.7	37.6	22.1	42	26	58.7	†	28.3	20.3	52	†
Ulcers of the Stomach												
All Ages*	2.1	1.0	1.0	0.6	52	40	1.4	0.7	0.6	0.5	57	29
35-44	.9	.5	.4	.2	56	60	†	†	†	†	†	†
45-54	2.6	1.1	.9	.5	65	55	1.4	†	†	†	†	†
55-64	6.3	2.5	2.6	1.4	59	44	4.6	†	†	†	†	†
65-74	13.4	5.4	5.9	3.0	56	44	9.7	†	4.0	†	59	†
75 and over	23.4	14.0	15.7	10.9	33	22	16.3	†	11.2	†	31	†
Ulcers of the Duodenum												
All Ages*	2.8	0.8	1.1	0.4	61	50	2.0	0.7	0.7	0.3	65	57
35-44	1.2	.4	.3	†	75	†	†	†	†	†	†	†
45-54	3.2	1.0	1.2	.4	63	60	1.6	†	†	†	†	†
55-64	8.6	3.3	2.8	.8	67	64	6.3	†	†	†	†	†
65-74	18.4	4.5	6.1	2.4	67	47	12.1	†	3.4	†	72	†
75 and over	31.9	12.0	16.6	8.1	48	33	32.0	†	14.0	†	56	†

*Adjusted on basis of age distribution of the United States total population, 1940. Ages under 35 included in All Ages.

†Fewer than 20 deaths; percent change not computed.

Source of basic data for the United States general population: Reports of the Division of Vital Statistics, National Center for Health Statistics.

20.7 per 1,000 in 1975 and to 17.0 per 1,000 in 1979. Among women, prevalence rates rose from 12.6 cases per 1,000 in 1968, to 17.2 in 1975, and reached 18.4 in 1979. The increased prevalence of ulcers among women is not clearly understood but has been attributed by some to recent changes in life style among women in our society.

The table above presents detailed information on the mortality from ulcers of the stomach and ulcers of the duodenum among men and women in the general population of the United States and among Standard Ordinary policyholders of the Metropolitan Life Insurance Company. Death rates are shown for selected age groups and for all ages combined in 1968 and 1978 for the general population, and in 1969 and 1979 for insured persons, with the percent change computed for the decennial period. The death rates at all ages combined have been age adjusted to allow for changes in the age composition of the population; such standardization permits a more meaningful evaluation of mortality trends.

Mortality rates from all types of peptic ulcers

have generally been lower for insured lives than for the general population, and the rate of decline has been somewhat greater for the insured group. Between 1969 and 1979, the mortality from peptic ulcers among insured males declined by two thirds, from 4.1 per 100,000 in 1969 to 1.4 per 100,000 in 1979. During the same period, mortality among females declined by 44 percent, from 1.6 per 100,000 to 0.9. Death rates from peptic ulcers in the general population decreased by 57 percent among males and 43 percent among females in the period from 1968 to 1978.

Between 1968 and 1978 the age-adjusted death rates from ulcers of the stomach among males in the general population decreased by 52 percent, from 2.1 to 1.0 per 100,000 population. During the same period, the mortality among females decreased from 1.0 to 0.6 per 100,000 or by 40 percent. The decline in mortality from ulcers of the stomach was greater for men than for women in all age groups except 35-44. At these ages, the mortality among women decreased by 60 percent, compared with 56 percent among men. The death rates among men declined for every age group shown, ranging from 33 percent at ages 75 and over to 65 percent at ages 45-54. Among women in the general population the decline in mortality from stomach ulcers extended from 22 percent at age 75 and over to 60 percent at ages 35-44. Death rates among insured men at all ages combined decreased from 1.4 per 100,000 in 1969 to 0.6 in 1979, or by 57 percent. Among insured women, there was a decline in mortality of 29 percent.

For both the insured lives and the general population there was a greater decline in mortality from ulcers of the duodenum than from ulcers of the stomach. Among insured males death rates from duodenal ulcers fell from 2.0 per 100,000 in 1969 to 0.7 in 1979, or by 65 percent. Among males in the general population, mortality decreased by 61 percent, from 2.8 in 1969 to 1.1 in 1978. For the corresponding years, mortality from duodenal ulcers fell by half among women in the general population and by 57 percent among insured women. It should be noted that some of the large percentage decreases shown in the table are based on low levels of mortality and are, therefore, subject to wide fluctuation from year to year.

For both the general population and insured lives, death rates from ulcers of the stomach and ulcers of the duodenum generally declined to 1.0 per 100,000 or less for men and to 0.6 per 100,000 or less for women. Despite a generally greater reduction in mortality among men, death rates remained at a higher level for men than for women.

Medical treatment is usually effective in controlling peptic ulcers, but there is a tendency toward recurrence. For a number of years, a bland diet, frequent feedings, antacids, and anticholinergics were used in the treatment of ulcers, primarily to relieve pain, promote healing, and prevent complications. In recent years, powerful inhibitors of acid secretion have become available and since 1977 the drug cimetidine has been widely used in the management of peptic ulcers (particularly duodenal ulcers).

Surgery is necessary for uncontrollable hemorrhage or perforation and may be advisable for recurrent hemorrhages or obstruction. Surgery is also indicated when a stomach ulcer has any characteristics suggesting malignancy. Between 1966 and 1977, however, surgical treatment of ulcers—usually partial gastrectomy and vagotomy—in the United States declined by 30 percent, from 136,000 operations in 1966 to 97,000 in 1977. The number of operations dropped still further to 69,000 in 1978, the year after the introduction of cimetidine, but rose to 81,000 in 1979. (In August 1977, the Federal Drug Administration approved cimetidine for up to eight weeks' use for patients with duodenal ulcers and hypersecretory conditions. Cimetidine was not approved for long-term use until 1980.) Prior to the introduction of cimetidine, about 1 in 4 patients hospitalized for peptic ulcers had undergone surgery; in 1978 the proportion fell below 1 in 5.[1]

Although the precise reasons for the decline in mortality from peptic ulcers are unclear, several advances resulting from research in the field have had significant impact. Epidemiologic and genetic studies have contributed to changes in concepts about the basic nature of the disease. New medical and surgical treatments have been introduced. The use of endoscopy has provided more precise diagnosis and more reliable evaluation of new treatments.[2]

[1]Fineberg HC, Pearlman LA. Surgical treatment of peptic ulcers in the United States. *Lancet* 1981 June 13; 8233:1305-1307.
[2]Grossman MI, moderator. Peptic ulcer: new therapies, new diseases. *Ann Intern Med* 1981; 95:609-627.

Occupational Mortality in England and Wales

In addition to biological and genetic influences, socioeconomic factors—such as occupation, education, and income—are closely associated with the health and longevity of a population. Occupation is one of the most important determinants of socioeconomic status. Although many studies of the effect of occupation on mortality have been conducted in the United States, most such investigations have been limited to occupations with clearly identified hazards. For more than a hundred years, however, the Registrar General of England and Wales has periodically published statistics on mortality in a large number of occupations not covered by special investigations. A review of some of the findings of the latest such study,[1] as well as information from earlier occupational mortality studies, is presented in this article.

Table 1 on page 11 presents mortality ratios for males and single females in 26 industrial or occupational groupings in 1950, 1960, and 1970. A mortality ratio is defined as the percentage ratio of the number of deaths observed in an occupational grouping to the number of deaths expected, based on the age-specific death rates for England and Wales. The mortality figures for 1970 are based on deaths during the years 1970-72 and on the census enumeration of April 1971. Deaths in 1949-53 and the April 1951 Census were used for 1950, and deaths in 1959-63 and the April 1961 Census for 1960. Ratios are shown for single females only because prior to 1970 married women were classified by their husbands' occupations.

Because of changes in distribution in the occupational groupings and in the composition of the population, mortality ratios for the same occupation from one decennial study to another are not strictly comparable. Comparisons within each report or comparisons of the relative mortality ranking of occupational groups between reports are of greater value.

In all three reports, males in the armed forces experienced the highest mortality, with mortality ratios of 142 percent in 1950, 151 percent in 1960, and 147 percent in 1970. A review of the mortality among members of the armed forces in each 10-year age group in 1970 indicates that the mortality ratio was highest (336 percent) at ages 55-64 and next highest (129 percent) at ages 15-24.

Male laborers and unskilled workers had the second highest mortality in 1950 and 1960 but ranked third in 1970. For this occupational group, the highest mortality ratios by age in 1970 were 212 percent at ages 25-34 and 178 percent at ages 35-44; the lowest mortality ratio was 132 percent at ages 55-64. Some of the excess mortality for this group has been attributed to higher mortality from respiratory conditions and accidents.

Male miners and quarrymen ranked fourth in 1950 and fifth in 1960 in terms of excess mortality, but moved to second place in 1970. A review of the experience by age indicates that in 1970 mortality ratios among miners rose steadily from 89 percent at ages 15-24 to 152 percent at ages 55-64. The excess mortality at the older ages reflects the large number of deaths from respiratory diseases, especially pneumoconiosis, which generally takes 20 or more years to develop.

Male administrators and managers have had the lowest mortality in all three surveys. The experience among artists, professionals, and technical workers was similar. Both groups had lower mortality than expected, reflecting perhaps the advantages of good working conditions and higher social class.

About a third of the occupational groupings show fewer than 100 deaths among single females; in such cases the mortality ratios have less signif-

TABLE 1—OCCUPATIONAL MORTALITY IN ENGLAND AND WALES

Males and Single Females, Ages 15-64, 1950-70

Occupation	Mortality Ratio*					
	Males			Single Females		
	1950	1960	1970	1950	1960	1970
Administrators and managers	70	70	73	58	66	59
Armed forces	142	151	147	64†	95†	112†
Artists, professionals, and technical workers	80	75	75	74	77	83
Bottlers, packers, storekeepers, and warehousemen	97	102	108	98	94	113
Ceramics and glass makers	92	97	109	104	109	156†
Chemical, coke, and gas makers	85	92	107	118†	139†	140†
Clerical workers	101	98	99	72	79	82
Clothing workers	101	107	103	108	116	127
Communications and transport workers	106	107	111	86	86	93
Construction workers	88	93	111	356†	400†	0
Decorators and painters	105	103	111	174†	108†	52†
Drink, food, and tobacco workers	93	103	110	80	104	107
Drivers of stationary engines, cranes, etc.	98	99	103	229†	110†	30†
Electrical and electronic workers	104	102	104	72†	82	78†
Engineering and allied trades workers‡	97	100	104	90	103	98
Farmers, fishermen, and foresters	74	82	91	69	82	83
Forge, foundry, furnace, and rolling mill workers	106	106	122	162†	78†	111†
Laborers and unskilled workers‡	131	145	141	108	193	232
Leather workers	111	109	114	113	111	82†
Makers of other products	87	82	84	104	84	116
Miners and quarrymen	112	115	144	325†	267†	0
Paper and printing workers	85	83	91	100	101	99
Recreation, service, and sport workers	113	118	116	85	115	117
Sales workers	96	90	90	88	90	95
Textile workers	103	116	110	121	137	152
Woodworkers	91	91	96	123†	119†	61†

*Expressed as a percentage of standard.
†Based on fewer than 100 deaths among single females; ratios for males based on 1,000 or more deaths.
‡Not elsewhere coded.

Note: 1950 report covers ages 20-64.

Source of basic data: *Registrar General's Decennial Supplements for England and Wales:* Occupational Mortality, 1951, 1961, 1970-72.

icance. Generally this has occurred among relatively small groups of women in the traditionally male occupations.

As was true for males, single female administrators and managers had the lowest mortality in all three studies. Female laborers and unskilled workers had the highest mortality, ranking first in 1960 and 1970, compared with third-place ranking in 1950. The mortality ratios of 193 percent in 1960 and 232 percent in 1970 were considerably higher than the corresponding ratios for males. Female textile workers experienced the highest mortality in 1950 but ranked second in 1960 and 1970. Their mortality was considerably higher than that among male workers. Female clothing workers had the third highest mortality in all three reports, aside from the experience in certain male-oriented occupations.

The mortality among men and single women according to major cause of death in 1970 is presented in Table 2. The four causes of death listed were responsible for about 90 percent of all deaths. A number of the mortality ratios are based on relatively sparse data and the figures should be used with caution.

Among males, miners and quarrymen—with a mortality ratio of 244 percent—had the heaviest mortality from respiratory diseases. This high mortality applied to coal miners working above ground as well as to those working underground. The

TABLE 2—OCCUPATIONAL MORTALITY IN ENGLAND AND WALES BY MAJOR CAUSE OF DEATH

Males and Single Females, Ages 15-64, 1970

Occupation	Mortality Ratio*							
	Diseases of Respiratory System		Diseases of Circulatory System		Malignant Neoplasms		Accidents, Poisonings, and Violence	
	Males	Single Females	Males	Single Females	Males	Single Females	Males	Single Females
Administrators and managers	33†	20†	83	45†	74	90	70†	65†
Armed forces	121†	60†	143†	104†	161†	149†	154†	97†
Artists, professionals, and technical workers	41†	43	83	70	72	106	75	119
Bottlers, packers, storekeepers, and warehousemen	107	106†	111	124	110	119	85†	89†
Ceramics and glass makers	163†	281†	101†	204†	119†	137†	66†	79†
Chemical, coke, and gas makers	96†	29†	110	162†	118†	132†	95†	163†
Clerical workers	81	48	113	81	87	104	74	87
Clothing workers	97†	95†	112†	158	97†	130	69†	109†
Communications and transport workers	110	52†	108	97†	120	104	120†	122†
Construction workers	110	0	103	0	126	0	132†	0
Decorators and painters	112†	51†	107	81†	123	72†	121	0
Drink, food, and tobacco workers	107†	89†	108	131†	125	126†	79†	37†
Drivers of stationary engines, cranes, etc.	106†	127†	104	0	105	46†	110†	0
Electrical and electronic workers	82†	98†	115	73†	107	107†	90†	26†
Engineering and allied trades workers‡	99	71†	105	109	113	110	94	70†
Farmers, fishermen, and foresters	90	70†	82	81†	92	102†	135	108†
Forge, foundry, furnace, and rolling mill workers	167†	0	116	125†	135	42†	80†	68†
Laborers and unskilled workers‡	193	228†	122	232	133	180	210	487†
Leather workers	134†	71†	120†	98†	107†	87†	60†	39†
Makers of other products	81†	92†	88	150†	92†	137†	59†	47†
Miners and quarrymen	244	0	137	0	120	0	150†	0
Paper and printing workers	82†	77†	99	139†	96†	102†	54†	61†
Recreation, service, and sport workers	117	99	116	127	114	119	120	121
Sales workers	72	77	96	87	89	115	87	99
Textile workers	122†	160†	121	189	101†	148	68†	90†
Woodworkers	84†	41†	96	104†	107	73†	91†	0

*Expressed as a percentage of standard
†Based on fewer than 1,000 deaths among males and 100 deaths among single females
‡Not elsewhere coded

Source of basic data: *Registrar General's Decennial Supplement for England and Wales*: Occupational Mortality, 1970-72

second highest mortality ratio was 193 percent among laborers.

Mortality from diseases of the circulatory system was also high among male miners and quarrymen and among leather workers. The mortality from such diseases was considerably higher among women than among men, particularly for female laborers, textile workers, and clothing workers.

Excess mortality from malignant neoplasms was noted for a number of occupations. Among men, forge workers had a mortality ratio of 135 percent, closely followed by a ratio of 133 percent among laborers. Among women, the highest ratios from malignant neoplasms were 180 percent among laborers and 148 percent among textile workers. The mortality from accidents, poisonings, and violence was extremely high for both male and female laborers.

[1] *Registrar General's Decennial Supplement for England and Wales*: Occupational Mortality, 1970-72. London, HMSO, 1978.

Population Growth in the United States and Canada

In both the United States and Canada, population growth during 1981 was at about the 1-percent level. In the United States the population (including the Armed Forces overseas) increased by 2,179,000, or by 0.95 percent, to reach a total of 231,009,000 on January 1, 1982. The gain was somewhat lower than the 1.05 percent increase registered in 1980. Population growth was slightly more pronounced in Canada in 1981, with an increase of 256,000, bringing the total population to 24,347,000 on January 1, 1982. The increase of 1.06 percent in Canada's population was slightly lower than the growth rate of 1.17 recorded in 1980.

The reduced rate of population growth in the United States was due primarily to a lower level of migration, which declined from 789,000 in 1980 to about 520,000 during 1981. The lower level of migration was offset to some extent by a higher level of natural increase—the excess of births over deaths—which amounted to 1,659,000 in 1981 (47,000 more than in 1980).

There were an estimated 3,646,000 live births in the United States in 1981, compared with 3,598,000 in 1980, and 3,494,398 the previous year. The birth rate has continued to increase and reached 15.9 per 1,000 population in 1981, compared with 15.8 per 1,000 in 1980, and 15.6 per 1,000 in 1979. The rise in the number of births is attributed to the continued increase in the number of women of childbearing age in the population. However, the fertility rate (number of live births per 1,000 women aged 15-44) continues at a low level. This is due to the fact that a large number of women in this age group have postponed pregnancy in order to continue their education or to pursue a career. Others have decided to have fewer children or to remain childless. Economic reasons prevail in some cases.

There were about 1,987,000 deaths in 1981—about 1,000 more than were recorded the previous year. The crude death rate remained unchanged at 8.7 per 1,000 population. Significant progress continued, however, in the reduction of mortality in the first year of life. The infant mortality rate declined to an all-time low of 11.7 per 1,000 live births in 1981—from 12.5 per 1,000 in 1980. This improvement was an important factor in raising the expectation of life at birth for the total resident population of the United States to a record high of 74.1 years (according to a provisional life table prepared by the Statistical Bureau of the Metropolitan Life Insurance Company). Life expectancy is one tenth of a year greater than in 1979—when the previous record was established—and three tenths of a year greater than in 1980.

Continuing the trend of recent years, population growth during 1981 was most rapid in the South and West and below the national average in the Northeast and North Central regions. As shown in Table 1 on page 14, the rate of growth was highest in the West South Central States (2.6 percent) and the Mountain States (2.4 percent), and above the national average of 0.9 percent in the South Atlantic and Pacific geographic divisions. Population growth remained below the national average in the New England, Middle Atlantic, West North Central, and East South Central States, but only the East North Central States registered a decline in population.

When compared with the average annual growth rates for the 1972-82 period, population growth rates during 1981 were higher in the New England, Middle Atlantic, and West South Central divisions, and at about the same level in the South Atlantic area. Growth rates in 1981 were lower than the 10-year average in the East North Central, West North Central, East South Central, Mountain, and Pacific States.

Texas—with a gain of almost half a million residents—recorded the largest numerical growth during 1981, bringing the total population of the

TABLE 1—POPULATION OF THE UNITED STATES BY GEOGRAPHIC AREA, 1972 TO 1982

Area	Numbers in Thousands				Annual Percent Increase*	
	January 1 1972	January 1 1977	January 1 1981	January 1 1982	During 1981	1972 to 1982†
United States						
Including Armed Forces overseas	208,917	219,179	228,830	231,009	1.0	1.0
Excluding Armed Forces overseas	208,224	218,706	228,339	230,508	.9	1.0
New England	12,089	12,382	12,412	12,496	.7	.3
Maine	1,025	1,094	1,130	1,136	.5	1.0
New Hampshire	771	852	930	943	1.4	2.0
Vermont	459	487	514	518	.8	1.2
Massachusetts	5,782	5,853	5,761	5,795	.6	‡
Rhode Island	969	946	951	956	.5	— .1
Connecticut	3,083	3,150	3,126	3,148	.7	.2
Middle Atlantic	37,702	37,579	36,871	36,903	.1	— .2
New York	18,444	18,191	17,596	17,617	.1	— .5
New Jersey	7,333	7,416	7,394	7,417	.3	.1
Pennsylvania	11,925	11,972	11,881	11,869	— .1	‡
East North Central	40,842	41,630	41,700	41,626	— .2	.2
Ohio	10,775	10,866	10,795	10,771	— .2	‡
Indiana	5,284	5,417	5,481	5,458	— .4	.3
Illinois	11,240	11,385	11,453	11,479	.2	.2
Michigan	9,033	9,253	9,234	9,172	— .7	.2
Wisconsin	4,510	4,709	4,737	4,746	.2	.5
West North Central	16,593	17,160	17,228	17,257	.2	.4
Minnesota	3,880	4,042	4,090	4,097	.2	.5
Iowa	2,826	2,941	2,907	2,893	— .5	.1
Missouri	4,754	4,884	4,935	4,951	.3	.4
North Dakota	632	659	656	660	.6	.4
South Dakota	677	699	689	684	— .7	.1
Nebraska	1,520	1,581	1,575	1,579	.3	.4
Kansas	2,264	2,354	2,376	2,393	.7	.6
South Atlantic	31,885	34,588	37,463	38,096	1.7	1.8
Delaware	569	591	597	600	.5	.5
Maryland	4,056	4,191	4,246	4,280	.8	.5
District of Columbia	751	700	634	632	— .3	— 1.7
Virginia	4,790	5,157	5,399	5,465	1.2	1.3
West Virginia	1,779	1,870	1,952	1,953	.1	.9
North Carolina	5,238	5,575	5,923	5,991	1.1	1.4
South Carolina	2,675	2,895	3,148	3,190	1.3	1.8
Georgia	4,738	5,071	5,531	5,625	1.7	1.7
Florida	7,289	8,538	10,033	10,360	3.3	3.6
East South Central	13,142	13,970	14,705	14,753	.3	1.2
Kentucky	3,307	3,504	3,664	3,662	— .1	1.0
Tennessee	4,042	4,324	4,605	4,624	.4	1.4
Alabama	3,513	3,727	3,908	3,928	.5	1.1
Mississippi	2,280	2,415	2,528	2,539	.4	1.1
West South Central	19,959	21,826	24,186	24,815	2.6	2.2
Arkansas	1,989	2,159	2,299	2,295	— .2	1.4
Louisiana	3,734	3,966	4,267	4,357	2.1	1.6
Oklahoma	2,636	2,829	3,070	3,134	2.1	1.7
Texas	11,600	12,872	14,550	15,029	3.3	2.6
Mountain	8,807	10,107	11,566	11,841	2.4	3.0
Montana	717	773	791	795	.5	1.0
Idaho	749	860	953	965	1.3	2.6
Wyoming	344	405	484	500	3.3	3.8
Colorado	2,353	2,654	2,935	2,998	2.1	2.5
New Mexico	1,067	1,201	1,317	1,347	2.3	2.4
Arizona	1,936	2,307	2,764	2,829	2.4	3.9
Utah	1,114	1,276	1,496	1,541	3.0	3.3
Nevada	527	631	826	866	4.8	5.1
Pacific	27,205	29,464	32,208	32,721	1.6	1.9
Washington	3,444	3,712	4,184	4,243	1.4	2.1
Oregon	2,171	2,395	2,646	2,657	.4	2.0
California	20,455	22,044	23,995	24,419	1.8	1.8
Alaska	322	412	408	416	2.0	2.6
Hawaii	813	901	975	986	1.1	1.9

*Based on rounded estimates. Minus sign (—) denotes decrease.
†Geometric average annual rate.
‡Less than 0.05.

Note: Figures for divisions and states exclude population of the Armed Forces overseas.

Source of basic data: Computed by the Statistical Bureau of the Metropolitan Life Insurance Company from reports of the Bureau of the Census and the National Center for Health Statistics.

TABLE 2—POPULATION OF CANADA BY PROVINCE, 1972 TO 1982

Province	Numbers in Thousands				Annual Percent Increase*	
	January 1 1972	June 1 1976	January 1 1981	January 1 1982	During 1981	1972 to 1982†
Canada	21,710	22,993	24,091	24,347	1.1	1.2
Newfoundland	528	558	584	588	.7	1.1
Prince Edward Island	112	118	124	125	.8	1.1
Nova Scotia	793	829	856	859	.4	.8
New Brunswick	638	677	709	713	.6	1.1
Quebec	6,040	6,234	6,325	6,358	.5	.5
Ontario	7,769	8,264	8,602	8,665	.7	1.1
Manitoba	989	1,022	1,027	1,034	.7	.4
Saskatchewan	917	921	976	988	1.2	.7
Alberta	1,645	1,838	2,136	2,212	3.6	3.0
British Columbia	2,224	2,467	2,688	2,738	1.9	2.1
Yukon and Northwest Territories	56	64	64	67	4.7	1.8

*Based on rounded estimates.
†Geometric average annual rate.

Note: Figures have been independently rounded, hence, totals may not equal the sum of the parts.

Source of basic data: Reports of *Statistics Canada*.

state to 15,029,000 by year end. California, the most heavily populated state in the nation, had the second largest numerical increase, which raised its resident population to 24,419,000. Significant population growth also occurred in Florida, with the total population rising to 10,360,000. New York, the second most populous state with 17,617,000 inhabitants, recorded an increase during 1981, reversing the downward trend of the past decade. Of the three other states in the nation which have a resident population of more than 10 million, Pennsylvania and Ohio each recorded a population decrease during 1981, while Illinois registered an increase. The largest numerical decline (62,000) occurred in Michigan.

Nevada recorded the highest population growth rate (4.8 percent) in 1981. In four other states—Florida, Texas, Wyoming, and Utah—growth rates were above the 3-percent level. Of the nine states that lost population during 1981, five—Ohio, Indiana, Michigan, Iowa, and South Dakota—are in the North Central area.

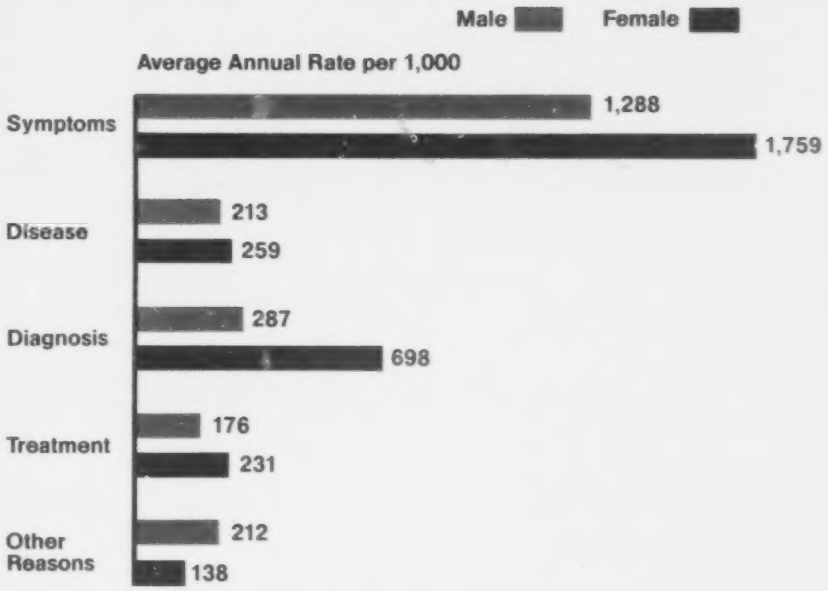
Canada's reduced rate of population growth reflected a decrease in net migration during the year, from about 83,000 in 1980 to about 57,000 in 1981. The Canadian birth rate remained unchanged at 15.3 per 1,000 live births, although the actual number of births rose from 368,030 in 1980 to about 370,000 in 1981. With approximately 171,000 deaths in 1981, the death rate declined from 7.2 to 7.1 per 1,000 population.

Alberta, British Columbia, and Saskatchewan had the most pronounced population increases in 1981, with annual growth rates above the level for Canada as a whole. (See Table 2.) Alberta's unusually high rate of natural increase, as well as an even higher rate of migration, continued to account for its substantial population growth. British Columbia was the only other province in which growth from migration exceeded that from natural increase. In Saskatchewan, migration was also a significant factor in its population growth. All the other provinces in Canada experienced population growth below the national average, with the exception of Ontario, all lost population through migration. The losses were outweighed by the gains from natural increase, however, resulting in moderate population increases. The Yukon and Northwest Territories gained 3,000 residents during 1981—an increase of 4.7 percent—raising the Territorial population to 67,000.

Ontario, the most heavily populated province in Canada, recorded a population increase of 63,000 in 1981, raising its total population to 8,665,000 by year end. At the same time, Quebec, the second most populous province, gained 33,000 residents, bringing the total population to 6,358,000.

Principal Reasons for Office Visits to Physicians

United States, 1977-78



Source of basic data: National Ambulatory Medical Care Survey, National Center for Health Statistics.

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